

**ARIZONA DEPARTMENT OF TRANSPORTATION  
ENGINEERING CONSULTANTS SECTION**

**STATEMENT OF QUALIFICATIONS PACKAGE  
FOR CONTRACT NO. 08-11**

**DESIGN CONCEPT REPORT &  
ENVIRONMENTAL STUDIES  
FOR  
SR64 EAST WILLIAMS TI TO TUSAYAN**



# **STATEMENT OF QUALIFICATIONS PACKAGE FOR**

## **CONTRACT NO. 08-11 DESIGN CONCEPT REPORT AND ENVIRONMENTAL STUDIES TRACS # H7142 01L SR64, I-40 TO TUSAYAN**

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**SECTION I**  
**PUBLIC ADVERTISEMENT**

**FOR PUBLICATION 2/6/08 and 2/13/08**  
**IN THE TRIBUNE NEWSPAPERS.**  
(Mesa Tribune, Chandler Arizonan & Tempe Daily News)

**ARIZONA DEPARTMENT OF TRANSPORTATION  
ENGINEERING CONSULTANTS SECTION**

**PUBLIC NOTICE FOR DESIGN CONCEPT REPORT  
AND ENVIRONMENTAL STUDIES  
SR 64, E. WILLIAMS T.I. TO TUSAYAN  
IN COCONINO COUNTY**

**ECS CONTRACT NO. 08-11  
TRACS NO.H714201L**

**Statements Due: 2/27/08**

The **ARIZONA DEPARTMENT OF TRANSPORTATION** is accepting Statements of Qualifications from firms to provide engineering services to prepare Design Concept Report including the implementation plan, Environmental Assessment, and associated studies and reports in order to identify the ultimate improvement of SR 64 along the study limits

Statements of Qualifications will be received until **4:00 p.m.** Arizona Time on the above referenced date at ADOT Engineering Consultants Section, 205 South 17th Avenue, Room 293E, Mail Drop 616E, Phoenix, Arizona 85007. **No Statements will be accepted after the time specified.**

A Pre-Submittal Conference has been scheduled by the Project Manager for Monday February 11h, 2008 at 10:00am in ADOT Auditorium, 206 S 17<sup>th</sup> Ave, Phoenix, Arizona, 85007. You must have an ID to sign in at the front desk. All questions to the Project manager must be addressed at this time. Following the Pre-Submittal meeting, no further contact regarding this project will be allowed with **ANY** ADOT personnel except for those in Engineering Consultants Section. "Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Aszita Mansor at (602) 712 6961. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation."

For further information contact ADOT Engineering Consultant Section, (602) 712-7525 or [www.azdot.gov/Highways/ECS/](http://www.azdot.gov/Highways/ECS/). Statement of Qualification packages for Contract 08-11 are available for pickup at the ADOT Engineering Building, 205 South 17th Avenue, Room 293E, Phoenix, Arizona 85007.



**SECTION II**  
**INFORMATION COPY TO CONSULTANTS**

ARIZONA DEPARTMENT OF TRANSPORTATION  
ENGINEERING CONSULTANTS SECTION

INFORMATION COPY TO CONSULTANTS

REQUEST FOR STATEMENTS OF QUALIFICATION FOR  
CONSULTANTS INTERESTED IN PERFORMING A DESIGN CONCEPT REPORT  
AND ENVIRONMENTAL STUDIES, SR64, E. WILLIAMS TI TO TUSAYAN  
IN COCONINO COUNTY

ECS CONTRACT NO. 08-11

TRACS NO. H7142 01L

Statements Due: 2/27/08

Statements of Qualifications expressing interest in the project will be received until 4:00 P.M. (Arizona Time) on the date shown above, at the office of Engineering Consultants Section, 205 South 17th Avenue, Room 229E, Mail Drop 616E, Phoenix, Arizona 85007. NO Statements will be accepted after the time specified.

Statements will be accepted from any firm or corporation who is properly registered with the Arizona Board of Technical Registration and who has a principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.

The selected consultant will provide professional engineering services for the Design Concept Report including the implementation plan, Environmental Assessment, and associated studies and reports in order to identify the ultimate improvement of SR 64 along the study limits.

The consultant may be required to perform services including, but not limited to;

- Preparation of Initial and Final Design Concept Report.
- Preparation of Draft and Final Environmental Documents.
- Conduct public involvement and agency coordination activities.
- Prepare Traffic Report.
- Prepare a geotechnical report and pavement analysis.
- Prepare Initial Drainage Report.
- Prepare hydrologic and hydraulic analyses.

See Scope of Work for more detailed outline of services required.

Effective 2/6/08, no further contact is allowed with any ADOT personnel concerning this project except for the Pre-submittal meeting and questions directed to the assigned Contract Specialist. This restriction is in effect until selection has been announced.

A Pre-Submittal Conference has been scheduled by the Project Manager for Monday February, 11th, 2008 at 10:00am at ADOT Auditorium, 206 S 17<sup>th</sup> Ave, Phoenix, Arizona, 85007. You must have an ID for admittance in to the building. Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Aszita Mansor at (602) 712 6961. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation.

Any questions of an administrative or contractual nature that were not addressed at the Pre-Submittal meeting must be submitted in writing and directed to the attention of Margie Cerda at the address below.

Margie Cerda, Contract Specialist  
Engineering Consultants Section (ECS)  
205 S. 17<sup>th</sup> Avenue, Room 293E, Mail Drop 616E  
Phoenix, AZ 85007  
Phone 602-712-8369  
FAX 602-712-7424

Questions will be received until 4:00 PM on February 22, 2008. A fax is also acceptable. No further questions will be accepted after the time specified.

All consultants will be notified of the consultant's request for information and the Department's response to the question. Information will be posted on the ECS Website as well as faxed to those firms that have registered for project updates.

Any violation of the above contact restrictions may be grounds for rejection of the consultants SOQ.

The Engineering Consultants Section Statement of Qualifications format for Contract No. 08-11 shall be followed when expressing interest in this project. The Statement of Qualifications package, or information regarding same, may be obtained from the address shown above, telephone (602) 712-7525. **Statements of Qualifications not following the correct format will be rejected.**

In order to qualify for selection, a firm must have on file with the Department a current "Prequalification Statement" or submit same with the Statement of Qualifications. Prequalification Statement forms may be obtained from the address shown above, telephone (602) 712-7525.

The Department may select one or more firms from among those submitting Statements of Qualification for further consideration. Previous experience in design concept report and environmental studies will be a factor in the selection.

The selected consultant and their subconsultants will be required to submit the Consultant Audit Questionnaire and comply with the Advance Agreement Checklist as detailed in SECTION IX of the SOQ Package.

All material submitted in accordance with this solicitation becomes the property of the State of Arizona.

Lobbying certification/disclosure certification statement will be required in the introductory letter from those submitting Statements of Qualifications.

The right is reserved by the Department to reject any and all Statements of Qualification.

Professional Liability Insurance will be required.

The Boiler Plates for all Engineering Consultant Section Contracts are not negotiable.

Partnerships (joint-ventures) will not be considered.

Reviewing the successful Proposal(s) would be allowed but copying is not permitted.

Inclusion of work hour and/or plan sheet estimates in the SOQ will not be allowed.

### **SECTION III**

#### **STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS**

**ENGINEERING CONSULTANTS SECTION  
STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS  
CONTRACT NO. 08-11**

Provided for your use is the format for submission of a STATEMENT OF QUALIFICATION.

1. 8 COPIES OF THE STATEMENT OF QUALIFICATION ARE REQUIRED BY ADOT.
2. There is a TOTAL PAGE LIMIT of 10 pages. The proposal may include clear report covers, covers, dividers, table of contents, tables, figures, maps, etc., but these must fit within the 10 page limit. A page shall be 8 1/2 X 11 inches, blank, or printed on one side only. Fold out pages are not allowable.

3. The SOQ proposal must follow the format outlined below:

	<u>FORMAT CONTENT</u>	<u>MAXIMUM POINTS</u>	<u>TOTAL NUMBER OF PAGES</u>
	FRONT COVER (Optional, but if included will count as a page)		
PART A	INTRODUCTORY LETTER		
PART B	EVALUATION CRITERIA May include information to support Criteria.		
	1. Project Understanding & Approach	40	
	2. Project Team	35	
	3. Firms Capability	20	
	4. Location of Work	5	
PART C	CONSULTANT FIRM INFORMATION PAGE		
	BACK COVER (Optional, but if included will count as a page)		
		<u>TOTAL POINTS</u>	<u>TOTAL PAGES</u>
	TOTAL POINTS	100	10

4. Any amendments issued on the SOQ and included in the SOQ, as required, will NOT be counted as pages.
5. Submissions failing to follow all instructions outlined above will be rejected and the Consultant notified in writing of the reason(s) for rejection.

ENGINEERING CONSULTANTS SECTION  
Statement of Qualifications  
Format and Evaluation Criteria  
for Contract No. 08-11

The following describes more specifically, the content of each part.

PART A, INTRODUCTORY LETTER

The introductory letter should be addressed to:

Arizona Department of Transportation  
Engineering Consultant Section  
205 South 17th Avenue  
Room 229E, Mail Drop 616E  
Phoenix, Arizona 85007

The introductory letter should contain the following items:

- An expression of the firm's interest in being selected for the project.
- A statement that the firm is pre-qualified with ADOT, or that the necessary pre-qualification information is being submitted with the proposal.
- A statement confirming the commitment of the key personnel identified in the submittal to the extent necessary to meet ADOT's quality and schedule expectations.
- Provide name and Professional Engineers registration number of the principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.
- A summary of key points regarding the firm's qualifications.
- A statement that the Consultant certifies, by signing and submitting this proposal to the best of his or her knowledge and belief, that no Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned for the purpose of lobbying (Refer to Section V).

PART B, EVALUATION CRITERIA

The information that should be included in the discussion of qualifications is outlined here.

1. Project Understanding and Approach
  - a. Discuss generally the tasks involved in this project. Identify any special issues or problems that are likely to be encountered. Demonstrate clearly and concisely your understanding of the technical and institutional elements with which the consultant must deal.
  - b. Outline your proposed approach for dealing with the tasks and issues of this project. Provide a tentative schedule indicating the duration and functional relationship of major tasks and key events. A graphical depiction may be included with the evaluation criteria.
  - c. Explain how your firm will use Partnering in this project. (Relates to Construction Administration only.)

## 2. Project Team

Identify your proposed project team and its collective qualifications for this particular project. In particular, discuss the following:

- a. **Project Principal.** Identify the person who (1) will be responsible for ensuring that adequate personnel and other resources are made available for this project; (2) will handle contractual matters, and; (3) will be ultimately responsible for the quality and timeliness of the consultant's performance. State that person's position and authority within the firm. Discuss previous similar projects for which this person has performed a similar function.
- b. **Project Manager.** State who will actively manage this project. Identify any projects that person will be involved with concurrently and time committed to each project. List recent similar projects for which this person has performed a comparable function. Discuss relevant experience, professional registrations, education and other components of qualifications applicable to this project.
- c. **Project Engineer(s) and/or Other Key Personnel.** Identify other members of the project team including subconsultants that provide special expertise or will perform key tasks. Describe their anticipated roles. Discuss their relevant experience, registration, education and other elements of qualification applicable to this project.
- d. **Construction Cost Estimator.** Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

## 3. Firm Capability

- a. Discuss recent relevant experience of the firm. Projects listed should be similar in nature to the current project and to the extent possible involve team members proposed for this project.
- b. Discuss quantitatively how this project would impact the current and anticipated workload of the office, which will perform this work. If "staffing up" will be necessary, discuss which areas and how that would be accomplished.
- c. Describe any special equipment, software or other resources your firm has which will enhance your ability to accomplish this project. If you propose to use CADD, describe the applicable training and experience of your staff and identify any previous projects for which you have used CADD.
- d. Describe your internal procedures for developing, monitoring and maintaining project schedules and budgets.
- e. Describe your internal quality control procedures.
- f. Describe any notable expertise, increase in capacity or other special capabilities of your subconsultants that are critical to your proposal.
- g. Describe how your quality program would enhance the development of this project.
- h. Describe your internal procedures for providing partnering education and development. (If applicable)

4. Location of Work

Describe where the key elements of this work will be performed by the Prime Consultant and the Subconsultants. ECS will award points based on the following criteria:

Less than 50% of all work done in state	0 points
At least 50% but less than 95% of all work done in state	1 point
At least 95% of all work done in state	3 points
100% of all work by the Prime and Subconsultants must be performed in State. Prime must be project convenient (within 35 miles of principal job site).	5 points

PART C, CONSULTANT FIRM INFORMATION SHEET

Complete the form provided or a facsimile thereof and include as a part of your submittal.



**ENGINEERING CONSULTANTS SECTION**  
**Proposal Evaluation Form**

Questions, which the review panel will generally be seeking to answer in their evaluation, are listed here. The maximum points available for each category are indicated, though the relative weighting of items within each category is up to the discretion of the individual reviewers.

**1. PROJECT UNDERSTANDING AND APPROACH (Maximum 40 points)**

- Does the consultant understand the nature and scope of the project and the major tasks and issues that will need to be addressed?
- Has the consultant correctly identified any special problems that are likely to be encountered?
- Does the consultant appreciate the interrelation and relative importance of the various project issues?
- Has the consultant's understanding of the project been expressed clearly and concisely?
- Has the consultant proposed logical approaches for dealing with the project tasks and issues?
- Does the schedule incorporate all the major tasks and events? Does it reflect the interrelationship of important project elements and events? Is the proposed timing realistic?
- Does the consultant understand its responsibilities for the project?

**2. PROJECT TEAM (Maximum 35 points)**

- What is the level of ability and experience of the proposed project manager? What is the person's record of accomplishing similar projects in the past in terms of (1) quality of work? (2) Meeting schedules, (3) responsiveness to special needs and concerns of the client? Is this individual familiar with specific ADOT standards and procedures?
- Does the person identified as ultimately responsible for the consultant's performance have the authority necessary to commit firm resources, and to act on behalf of the consultant regarding contractual matters and disputes? What is this person's experience and record of performance on past projects of similar type and magnitude? Has this individual been responsive to ADOT and/or other clients in the past?
- Do other key members of the project team (including subconsultants) provide the range and level of expertise necessary to deal with the scope of this project? Are these individuals familiar with specific ADOT standards and procedures? Have they worked together as a team before?
- Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

**3. FIRM CAPABILITY (Maximum 20 points)**

- What level of experience relevant to this project does the consultant have? Are the firm's employees with the relevant experience participating in this project? Is the consultant familiar with ADOT standards and procedures? Has the firm shown a particular commitment to this type of work?

### 3. FIRM CAPABILITY (continued)

- Has the consultant provided quantitative data indicating that qualified personnel will be available for this project? Does the consultant realistically have the ability to add qualified staff if needed for this project or other projects that happen to come on line before this project is completed?
- Will this project benefit from the use of CADD? If so, does the consultant have the type and amount of CADD equipment appropriate for this project? Is the consultant's staff suitably trained and experienced in the use of CADD? Has the consultant successfully used CADD on past ADOT or similar projects?
- Does the firm have other special equipment or software that will be beneficial to this project? Are current staff members familiar with its use? Has it been used successfully before on ADOT or other similar projects?
- Is the consultant's approach for developing and maintaining the project budget and schedule sound? Has the consultant used these procedures successfully on ADOT or similar projects in the past? Are proposed measures to avoid or make up slippage on the schedule realistic?
- Is the consultant's quality control program suitable? Has it been used successfully by the consultant on ADOT or similar projects in the past?
- If one or more subconsultants are critical to the consultant's proposal, do these firms have the technical expertise, available personnel and record of performance appropriate for their anticipated roles?

F.

CONTRACT NO. \_\_\_\_\_

**STATEMENT OF QUALIFICATIONS/SELECTION  
PANEL COMMENT FORM**

FIRM NAME \_\_\_\_\_ # \_\_\_\_\_

PANEL MEMBER \_\_\_\_\_ # \_\_\_\_\_

**1. PROJECT UNDERSTANDING AND APPROACH**

What did you like about the firm's understanding and approach?

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What did you dislike about the firm's understanding and approach?

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What did you think about the way the firm handled special problems and/or special situations?

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---

What did you think about the schedule?

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What parts of the understanding and approach did you think were well done?

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What suggestions would you make to the firm to improve this section for the next time?

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**SCORE (40 Maximum)** \_\_\_\_\_

FIRM NAME \_\_\_\_\_ # \_\_\_\_\_

PANEL MEMBER \_\_\_\_\_ # \_\_\_\_\_

**2. PROJECT TEAM**

Team Strengths:

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Team Weaknesses :

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How are the team member's qualifications geared to this specific project?

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SCORE (35 Maximum) \_\_\_\_\_

**3. FIRM'S CAPABILITIES**

Firm's strong areas as related to this project :

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Firm's weak areas as related to this project:

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FIRM NAME \_\_\_\_\_ # \_\_\_\_\_

PANEL MEMBER \_\_\_\_\_ # \_\_\_\_\_

3. FIRM'S CAPABILITIES, CONTINUED

How did the firm fit the subconsultant's qualifications/duties into overall picture?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SCORE (20 Maximum) \_\_\_\_\_

(SCORES ARE TO BE ENTERED AND TOTALED ON SCORE SHEET)

=====

OTHER:

Any comments on the format and presentation of the SOQ?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Any other comments or suggestions?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SECTION IV**

**CONSULTANT FIRM INFORMATION PAGE**

**PART C - CONSULTANT FIRM INFORMATION PAGE**

CONTRACT NO.: \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_

CONSULTANT FIRM: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CITY, STATE ZIP: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX NUMBER: \_\_\_\_\_

ADOT CERTIFIED DBE FIRM? \_\_\_\_\_

AFFIRMATIVE ACTION ON FILE WITH ADOT? \_\_\_\_\_

SUBCONSULTANT(S)	TYPE OF WORK	ADOT CERTIFIED DBE FIRM
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**NOTE: The Consultant Firm Information Page must be a separate full page and is included in the total page count. This page is not evaluated by the Selection Panel, but is used by Engineering Consultants Section for administrative purposes.**

**SECTION V**  
**LOBBYING CERTIFICATION**



## Lobbying Certification

The Consultant certifies, by signing and submitting this proposal (see statement in "Introductory Letter"), to the best of his or her knowledge and belief, that:

- (1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.
- (2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Copies of Form-LLL "Disclosure Form to Report Lobbying", are available at ADOT Engineering Consultants Section, 205 S. 17<sup>th</sup> Avenue, Mail Drop 616E, Room 229E, Phoenix, AZ 85007.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, and U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The proposer also agrees, by submitting its proposal, that it shall require that the language of this certification be included in all subcontracts and lower tier subcontracts which exceed \$100,000 and that all such subcontracts and lower tier subcontractors shall certify and disclose accordingly.

The Department will keep the Consultants certification on file as part of their original proposals. The Consultant shall keep individual certifications from all subcontractors and lower tier subcontractors on file. Certifications shall be retained for 3 years following completion and acceptance of any given project.

Disclosure forms for the Prime Consultant and or their subcontractors and lower tier subcontractors shall be submitted to the Contract Manager at the date Statements of Qualifications are due, when said subcontracts exceed \$100,000. During the performance of the contract the Consultant and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Contract Manager to the Federal Highway Administration for further processing.

## **SECTION VI**

**ADOT EMPLOYEE POST EMPLOYEE EMPLOYMENT RESTRICTIONS**

**SUPPLEMENTAL SERVICES RESTRICTIONS**



Janet Napolitano  
Governor

Victor M. Mendez  
Director

**Arizona Department of Transportation**  
**Intermodal Transportation Division**  
206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Debra Brisk  
Deputy Director

**August 18, 2004**

**REVISED**  
**INFORMATION BULLETIN NO. 04-05**

TO. ADOT Project Managers/Monitors, Resident Engineers  
And Consultant Engineering Firms

FROM. Engineering Consultants Section

SUBJECT: CONFLICT OF INTEREST  
SUPPLEMENTAL SERVICES RESTRICTIONS

The purpose of this bulletin is to provide guidance to firms supplying supplemental service employees to ADOT under contracts administered by the Engineering Consultants Section (ECS).

The following restrictions are intended to avoid actual or perceived conflicts of interest. The reference to "ADOT contract employee" applies to both full time and part time contract employees.

1. A current ADOT contract employee cannot be included in a Statement of Qualifications proposal for an ADOT consultant contract as a member of the consultant's team. Exceptions would be:
  - a. if the contract employee resigns to comply with this rule their last day of ADOT contract employment must be prior to the date that the proposals are due; or
  - b. if the employee's contract is in it's third year and within 4 months of the contract completion date; or
  - c. if the Department exercises it's option not to extend the existing contract.
2. If a current or former ADOT contract employee is employed by a consultant which has an active ADOT contract for which the contract employee was a decision maker (for example: involved in the final scope preparation, involved in the selection process or negotiated/approved billings or contract modifications), the employee is prohibited from working on these contracts.

As of this date, a copy of this information bulletin will be included in each ECS Statement of Qualifications package

If a waiver is requested from the above restrictions, a statement must be submitted to ECS describing the nature of their involvement prior to proposal submittal or work assignment. Resolution of potential conflicts of interest will be determined by ECS in conjunction with the applicable Deputy State Engineer



FIFE SYMINGTON  
Governor

LARRY S. BONINE  
Director

## ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION  
ENGINEERING CONSULTANTS SECTION  
205 South 17th Avenue - Room 293E, Mail Drop 616E  
Phoenix, Arizona 85007



THOMAS G. SCHMITT  
State Engineer

March 7, 1996

Engineering Consultants Section

### **INFORMATION BULLETIN 96-04**

TO: CONSULTANTS  
FROM: ENGINEERING CONSULTANTS SECTION  
SUBJECT: ADOT Employee Post Employment Restrictions

The purpose of this bulletin is to provide guidance to consultants in the employment of current or former ADOT employees to work on contracts administered by the Engineering Consultants Section. The following guidelines and policy are intended to avoid actual or perceived conflicts of interest. The reference to "current ADOT employee" applies to both full time employees and temporary employees.

1. A current ADOT employee cannot be employed by a consultant to work on active ADOT contracts.
2. A current ADOT employee cannot be included in a Statement Of Qualifications proposal for an ADOT consultant contract as an owner, an individual, or as a member of the consultants team. If an employee resigns to comply with this rule their last day of ADOT employment must be prior to the date that the proposals are due.
3. If a current or former ADOT employee is employed by a consultant which has an active ADOT contract for which the employee was a decision maker in the selection process or negotiated/approved billings or contract modifications, the employee is prohibited from working on these contracts (Policy and Implementation Memorandum 92-12)

## **SECTION VII**

### **PROJECT SUMMARY REFERENCE MATERIAL AVAILABILITY**

**(Non applicable)**

**SECTION VIII**  
**SCOPE OF WORK**

**STATE ROUTE 64: EAST WILLIAMS TI TO TUSAYAN  
064 CN 185 H7142 01L  
WILLIAMS – GRAND CANYON - CAMERON HIGHWAY  
SR 64**

**SCOPE OF WORK**

**DESIGN CONCEPT REPORT  
AND  
ENVIRONMENTAL STUDIES**

**JANUARY 2008**

**ROADWAY PREDESIGN SECTION  
ROADWAY ENGINEERING GROUP  
INTERMODAL TRANSPORTATION DIVISION  
ARIZONA DEPARTMENT OF TRANSPORTATION**

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## PROJECT SCOPE OF WORK

### 100 GENERAL INFORMATION

#### 110 Location

Project 064 CN 185 H7142 01L East Williams TI to Tusayan, is on SR 64 beginning at approximately Milepost 185.0, includes the East Williams Traffic Interchange (I-40 Exit 165), and extends north to approximately Milepost 235.4 near south side of Tusayan. The project is entirely within Coconino County with portions at the north and south ends within the Kaibab National Forest.

The Design Concept Report will be built upon from previously completed Feasibility Study Report for SR 64. The work will involve preparation of a Design Concept Report, an implementation plan, an Environmental Documentation (NEPA), and associated studies and reports to identify recommended improvements, within the existing corridor, from the East Williams TI to the community of Tusayan near the Grand Canyon National Park boundary. This study will include the intersection at US 180 and the East Williams TI.

Throughout this study segment, SR 64 carries both local traffic as well as tourist and through traffic destined for the Grand Canyon and US 89 near Cameron. It is expected that traffic volumes will increase in the next 20 years. Some traffic is generated by the residential developments and businesses adjacent to SR 64 and in the local communities, while the rest of the traffic is destined for the Grand Canyon and other tourist attractions in northern Arizona. The Department's long-range goal is to provide an improved roadway from the East Williams TI to the entrance to Grand Canyon National Park. The proposed improvements will improve the operation and capacity within that corridor.

An Access Management Study is being prepared under a separate contract through Transportation Planning Division.

It may be necessary to collect and analyze data beyond the currently proposed limits. A project map is provided in Appendix A.

Factors that will be addressed in the evaluation include alignment modifications, bridge replacement, drainage, traffic control, right of way, utility relocation, environmental impacts, traffic operations, and cost. Several technical reports are to be prepared for this study including an Environmental Document (NEPA), Traffic Operations Analysis Report and Conceptual Drainage Report.

#### 120 Description of Project

The work will include preparation of a Design Concept Report, an Implementation Plan, associated environmental documentation, and related studies and reports in order to define the ultimate improvement of SR 64 along the study limits from the East Williams TI to the community of Tusayan near the Grand Canyon National Park boundary. The Design Concept Report will be built upon from previously completed Feasibility Study Report. This DCR study will include the East Williams TI and the intersection at US 180.

Reports and Studies will address the following:

A. Develop the Initial and Final Design Concept Report that will improve the capacity & safety of the corridor study limits based on the following engineering tasks:

1. Develop short and long-term improvement plans. Interim projects are to be assessed in concert with the ultimate corridor plan. Previously scoped Project Assessments or Feasibility Studies within the study corridor will also be evaluated.

2. Appropriate geometric configurations based on capacity, level of service, horizontal & vertical clearance, safety, constructability, and other general design criteria.
  3. Evaluate the full impacts of corridor improvement alternatives on right-of-way, the hydrology and hydraulics of drainage features, and corresponding approach roadways, and crossroads.
  4. Logical construction segments, logical sequence, and probable timetable when additional travel lanes may be needed based on traffic projections, maintenance problems, traffic control, constructability and other factors.
- B. Prepare Draft and Final Environmental Document (NEPA). The type of environmental document that will be prepared for this Design Concept Report will be determined at the first Agency Meeting for this project.
  - C. Conduct public involvement and agency coordination to build consensus among local communities and affected agencies, in coordination with the Communications and Community Partnerships (CCP) Division and the Environmental Planning Group (EPG).
  - D. Prepare a Traffic Report with sufficient data to support the design concepts. Design Year traffic capacity needs will be evaluated as well as interim year analysis as needed to support development.
  - E. Prepare a geotechnical and pavement analysis in order to fully evaluate the ultimate roadway paving material needs in the Initial Design Concept Report.
  - F. Prepare a Drainage Report with sufficient detail to provide sizing of cross-drainages to support alternatives, while identifying existing drainage problems and cross-drain impacts of widening alternatives. Drainage studies should include scour evaluations at the existing cross-drainage structures.
  - G. Hydrologic and hydraulic analyses for bridge replacement, including preliminary scour analysis at bridge and design. Along with a detailed watershed description, the hydrologic analysis should include description of flood data and flood frequency analysis. To size the replacement bridge, both the bridge span and the low chord must be specified and a field investigation should be conducted to verify any initial results from the hydraulic model.
  - H. Evaluate, update and refine the Wildlife Accident Reduction Study that was done for the previously completed SR 64 Feasibility Study.

## **130 Purpose**

The purpose of this study is to prepare a Design Concept Report and long-range implementation plan for the described section of SR 64 and fundable projects for inclusion in future ADOT Five-Year Highway Construction Programs, while conducting public involvement activities to assure local and agency concurrence with the proposed long-range plan. This plan and concept will include environmental evaluation of alternatives and preparation of an Environmental Document (NEPA) with a determination of impacts and mitigation for a preferred action. This project will also identify and evaluate any requirements for Joint Project Agreements between the State of Arizona and local jurisdictions prior to final design.

## **140 Construction Cost**

The Transportation Board has not funded the long-term development of this corridor. The Consultant shall provide cost estimates for the Design Concept Report and the Implementation Plan in an acceptable format that can be utilized for programming, scoping, and preliminary engineering purposes.

## **150 Organization**

The Arizona Department of Transportation (ADOT) utilizes design consultants to perform a variety of engineering services. This Scope defines the responsibilities of ADOT and the Consultant and the work to be performed.

## **160 Length of Services**

The length of service shall be 540 calendar days from notice to proceed, including all ADOT reviews.

## **170 Project Schedule**

The Consultant shall provide a schedule of major project milestones, based on an estimated date of notice to proceed 90 calendar days after the proposal submittal date. The Consultant shall submit an initial schedule within 10 calendar days of actual "notice to proceed".

The Consultant shall submit updates to the project schedule at intervals that are acceptable to the Predesign Project Manager. The updates shall include project detail activities and the respective dates in a bar chart or other approved format and a schedule of major project milestones concurrent with monthly invoices. If an activity or milestone falls 30 calendar days or more behind the approved schedule, a revised schedule shall be prepared within 15 calendar days showing steps to be taken to complete the work on time.

## **172 Progress Meetings**

The Consultant shall arrange and attend monthly progress meetings with the Predesign Project Manager. The location of the progress meetings should alternate between Phoenix and Flagstaff. Progress meetings will be held in addition to other project meetings and will be held to address topics relating to the Consultant's project status and progress of the study contract. The Consultant shall produce and distribute meeting minutes within two weeks of meeting date.

## **180 Responsibility Chart**

Appendix B, is a table indicating the division of responsibilities between the Consultant, ADOT, and others. This table is intended as a "checklist." In the event of a conflict, the written scope of work shall take precedence.

## **200 DESIGN REFERENCES**

Design references developed, adopted, and published by ADOT and other agencies for use in design are listed in the ADOT Project Development Process Manual, ADOT Roadway Design Guidelines, ADOT Bridge Practice Guidelines, and the ADOT/USFS Guidelines for Highways on National Forest Lands (as applicable). The Consultant is advised that while possession of these documents may not be necessary to successfully complete the project, the Consultant is responsible for developing the project using applicable documents, current revisions to standards and guidelines, and all other applicable supplements. The Consultant is responsible to ensure the project is developed in accordance with federal, state, and local regulations, statutes, policies, procedures, and guidelines. The Consultant shall consult with the ADOT technical sections and the Engineering Records Section for current approved references.

## 210 AASHTO Publications

ADOT references and publications shall control the work and any necessary supplementation should be provided by appropriate AASHTO and/or FHWA references. "A Policy on Geometric Design of Highways and Streets" shall be used in preparation of the AASHTO Controlling Design Criteria Report.

## 300 DESIGN CRITERIA

The project shall incorporate design concepts in accordance with the ADOT Project Development Process Manual, ADOT Roadway Design Guidelines, ADOT Bridge Practice Guidelines, the ADOT/USFS Guidelines for Highways on National Forest Lands (where applicable), and the information presented in this section. Project Design Memorandums provided by ADOT during the course of the project may supplement the design criteria.

### 301 Supplemental Design Criteria

Design Year - 2038

Pavement Design Life - 20 years

Number of Traffic Lanes - Evaluate and recommend.

Median Width - Evaluate and recommend

## 400 SCOPING WORK PERFORMED BY CONSULTANT

The work performed for this study shall be completed in two phases; Phase 1: an Initial Design Concept Report and Phase 2; a Final Design Concept Report and supporting Environmental Document (NEPA). Phase 1 shall be completed within 9 months of the Notice to Proceed (NTP). Phase 2 shall be completed within 18 months of the NTP.

The work shall conform to the standards, criteria, and requirements of this Scope of Work, including Appendix C. The Consultant shall review the available ADOT photogrammetry, survey, mapping, and digital terrain modeling; and then identify and obtain additional photogrammetry, survey, mapping, and digital terrain modeling as necessary to complete the study.

This Design Concept Report (DCR) study will be built upon previously completed Feasibility Study and the work performed for this DCR study shall include but is not limited to the following:

### A. Initial Design Concept Report:

The Consultant will present the proposed design criteria, any alternatives (either new or as previously scoped), typical sections, etc. within the corridor for review and approval by ADOT. The Consultant's recommendations will be supported by their own research, identified environmental issues, site visit(s), community input, initial AASHTO analysis, initial drainage study, design criteria, initial traffic analysis, utility and right-of-way information of record, etc.

The alternatives developed and approved for further study shall be expanded upon, incorporating any comments from team members. Each subject shall be addressed in sufficient detail to clearly document the design concepts, and justify the recommendations and the alternative considerations. Coordination with adjacent landowners and local jurisdictions shall be an important part of fulfilling the

requirements of the study. Selection of the recommended alternative shall be consistent with and supported by the environmental documentation.

An Initial Design Concept Report, with sufficient depth to explain the design criteria, available alternatives will be submitted to ADOT within nine (9) months of the NTP.

Agency and Public Scoping Meetings will be held in the project vicinity to explain the project and solicit comments from the public and interested organizations on the relevant issues in the corridor and possible alternatives under consideration. These meetings will be documented in the Initial Design Concept Report.

A Public Information Meeting(s) will be held in the project vicinity to present the project alternatives and solicit comments from the public and interested organizations.

## **B. Draft Environmental Document**

The Consultant shall prepare a Draft Environmental Document (NEPA) concurrent with the preparation of the Initial Design Concept Report. This document will describe the impacts of the recommended action and the necessary mitigation measures. The consultant shall coordinate with EPG throughout the environmental compliance process and EPG will provide the final review-approval for ADOT on all environmental documentation and procedures. See Appendix C for additional information.

## **C. Final Design Concept Report:**

The Consultant will respond to written comments from the review of the Initial Design Concept Report by issuing a Summary of Comments. The Consultant shall submit the Final Design Concept Report, sealed by an Arizona Registered Professional Engineer, at the completion of this study. The reports shall include refinements of the materials developed since the Initial Design Concept Report and revisions resulting from the project comment process. Itemized estimates shall be done by using ADOT's E2C2.

## **D. Final Environmental Document:**

The Consultant shall prepare a Final Environmental Document concurrent with the preparation of the Final Design Concept Report. This document will incorporate a description of the public involvement process and the responses to the comments received, along with discussion of changes to the draft environmental documentation. See Appendix C for additional information.

## **E. Corridor Implementation Plan (If Applicable):**

The Corridor Implementation Plan (CIP) shall be included in the Design Concept Report. The CIP shall define the individual sequential steps necessary to develop the ultimate corridor goals and preferred alternative. The CIP will be prepared for the preferred alternative only. The CIP shall include interim construction and timing measures that will address specific problem areas discovered during the Study, extend the useful life of the existing facility before major reconstruction, and will result in a phased implementation of the ultimate design concept with a minimum amount of "throw-away". The report will also address cost-effective implementation that will discuss issues that must be resolved or revisited during design and prior to construction, such as environmental clearance, right-of-way acquisition, and joint project agreement opportunities for improvements in communities. The CIP will present and discuss construction cost estimates for each proposed project, which can be recommended for programming. The study team will document the proposed order of construction along with any information, such as forecast traffic volumes, developed to provide guidance as to when certain phases may be needed. The Assistant State Engineer, Roadway Group, will select the

preferred implementation strategy. The Corridor Implementation Plan will be used as a guide for programming all projects in the corridor.

#### **F. Structures:**

The Consultant shall determine the need for new or reconstructed structures on the project including all impacts to traffic interchanges and crossroad structures. The consultant shall be fully knowledgeable of bridge types and structural requirements for railroads, traffic interchanges, water crossings, and walls. The Consultant shall recommend alternative structures and superstructure depths to the extent necessary for development of roadway concepts. Identifying the need for new or replaced structures is required for preliminary cost comparisons and is part of the study. The Consultant shall follow ADOT Bridge Practice Guidelines in developing concepts for bridges and structures including wildlife crossings. The Final DCR will cover up to 15% plans, therefore an Initial Bridge Study Report (15%), may be required.

### **410 PUBLIC INFORMATION MEETINGS AND PUBLIC MEETINGS**

ADOT Communication and Community Partnerships Office will lead the Public Involvement Process. Depending on the project's development stage, CCP will work with the appropriate ADOT division to determine the level of communication services for the project and to identify the appropriate Public Involvement, Government Relations and Public Relations Consortium. CCP will assign and manage the Public Involvement, Government Relations and Public Relations Consortium and will establish an internal multidiscipline Communication Coordination Team to provide guidance to the Consortium. CCP will work with the ADOT Environmental Planning Group on projects that require NEPA compliance.

The Consortium will be available to provide a wide range of services including preparation for meetings, presentations at the request of ADOT and responses to verbal and written questions from the general public. The purpose of ADOT's public outreach efforts is to work collaboratively with communities impacted by ADOT projects.

The consultant shall be available to attend meetings, provide support in preparation of meetings, or make presentations at the request of ADOT and assist with responses to verbal and written questions from the general public. The purpose of such meetings will be to inform the public of projects, and answer questions regarding the scope, details and anticipated project schedule. The Consultant may be called upon to prepare graphics, handout materials, minutes of meetings, audiovisual displays and similar materials for such meetings. All such material shall prominently display the ADOT logo.

### **500 MANAGEMENT CONSULTANT SERVICES (Not Applicable)**

### **600 POST-DESIGN SERVICES (Not Applicable)**

### **700 MATERIALS FURNISHED BY ADOT**

ADOT will provide the following information if available to the Consultant. The Consultant shall review the availability of materials from ADOT before submitting a fee proposal for the project. As-Built drawings, plans and records and Accident Reports and Data may not be completely available or accurate in contents. It is the consultant's responsibility to determine the availability and applicability of the existing ADOT data.

### **710 Surveys and Mapping**

ADOT will make available the following materials:

ADOT State Plane Coordinate Grid Adjustment Factor(s)

AZ State Plane coordinates for control points.

Bench Marks and other necessary points

Survey Records

## **720 Materials Investigation**

ADOT will make available historical data on soils and existing pavement information and proposed pavement sections.

## **730 Record Documents**

ADOT will make available the following ADOT drawings:

Available "as built" plans of existing conditions

Available right-of-way plans of existing conditions

## **740 Traffic Data**

ADOT will make available the following design traffic data:

Traffic Counts and Projection Data

K, D, and T factors

## **750 Miscellaneous**

ADOT will make available the following:

Accident history

Bridge records

Access to E2C2

## **800 SECTION DESIGN COORDINATION (Not Applicable)**

## **900 (SECTION NON-EXISTENT)**

## **1000 CONTRACT ADMINISTRATION**

### **1010 Arizona Department of Transportation**

ADOT's Predesign Project Manager will:

- A. Conduct ongoing reviews of the Consultant's progress in performing the work and furnish technical comments in a timely manner.
- B. Review the Consultant's billings.
- C. Review and evaluate the Consultant's requests for extension of time and supplemental agreements.



- D. Review and comment on correspondence with the public and agencies prior to the Consultant's mailing of any correspondence.
- E. Provide a focal-point contact for questions, requests, and submittals.

## **1020 Consultant**

The Consultant shall:

- A. Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project in the location specified in the Consultant's technical proposal.
- B. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project.
- C. Establish internal accounting methods and procedures for documenting and monitoring project costs and scheduling the project.
- D. Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts.

The Consultant has total responsibility for the accuracy and completeness of the contract documents and related design prepared under this project and shall check all such material accordingly. The documents will be reviewed by ADOT for conformity with ADOT procedures and the terms of the contract. Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted. The responsibility for accuracy and completeness of such items remains solely that of the Consultant.

## **1021 Project Control**

The Consultant shall provide data, in the format specified by ADOT, upon request to monitor costs, personnel usage, and to report progress.

The project control system may include features to:

- A. Determine and highlight critical path work as work progresses.
- B. Identify progress against schedule for each identified work item.
- C. Establish completion dates for milestones and activities.
- D. Highlight rescheduled work in any area which is out of the required sequence.
- E. Determine an area of work that will require more resources than originally allocated.
- F. Forecast future conflicts in any area.
- G. Provide estimates of time, personnel usage, and dollars required at the lowest work element tracked, based upon current expenditures versus schedule

- H. Provide the capability of random inquiry concerning the status of any work element in terms of schedule, personnel usage, and dollars.

## **1022 Subcontract Services**

Due to the nature and scope of the required services, it may be necessary for the Consultant to subcontract portions of the work. The subcontracting firms must be approved in writing prior to initiation of any work. The volume of work performed by the subcontractors shall not exceed forty- nine percent (49%) of the total contract value.

## **1023 Project-Related Correspondence**

The Consultant shall furnish written documentation of communications between the Consultant and any party pertaining specifically to this project to ADOT for their records within one (1) week of the communication. The Consultant is responsible for recording and distributing to the participants the minutes of all meetings pertaining to this project within one (1) week of the meeting.

## **1024 Quality Control**

The Consultant has total responsibility for the accuracy and completeness of the plans and related design prepared under this contract and shall check all such material accordingly. The Consultant shall have a quality control plan in effect during the entire time work is being performed under this contract. The plan shall establish a process whereby plans and calculations and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. Non-compliance will be sufficient cause for rejection of submittal. The Predesign Project Manager may perform periodic Quality Control audits.

The Consultant shall submit the quality control plan to ADOT for approval within fifteen (15) working days of receipt of written Notice to Proceed. The plan should comply with the requirements of Section 1025. The plan shall address as a minimum: checking procedures, sub-consultant submittals, training of employees in quality requirements, and methods of monitoring and documenting quality control activities.

## **1025 Quality Control (QC) Plan Requirements**

Identification of key personnel and definition of specific responsibilities.

A technical review process.

Checking procedures.

A program to train employees in the quality control requirements.

A process to monitor and document quality control activities.

The Consultant's quality control plan should identify the following:

A. The plan shall identify by name the specific project personnel and their individual responsibilities relative to the project and the Quality Control process. The plan shall include a detailed outline of the checking procedures and include a program to train employees in the quality control requirements and the documentation and monitoring of the quality control process.

B. Checking reviews verify the accuracy of the documents. Technical reviews will verify the overall design concepts of the project. As a minimum effort, the technical review should do the following:

- A. Determine the adequacy of the design process to achieve the desired goals.
- B. Evaluate the general selection and sizing of materials and equipment.
- C. Determine if all viable alternatives have been considered.
- D. Determine the practicality of the design concept.
- E. Determine if legal and physical restraints were considered.
- F. Determine if the design theory, concepts, and project layout are logical.
- G. Determine applicability of computer programs used.
- H. Determine if the technical specifications are sufficiently comprehensive.
- I. Determine the constructability of the selected design.

The checking process should assure that all documents produced, including, but not limited to, plans, reports, calculations, estimates, and schedules, are thoroughly checked by an individual equally competent to the originator of the document to verify accuracy. The process should address resolution of conflict and assure agreement of computer programs and procedures for checking computer input and output. Checking shall not only confirm the accuracy of calculations, but shall include a thorough review of the proper use of Standard Drawings, Drafting Guide, Project Design Guidelines, and other manuals and documents referenced under Section 200.

The training program should provide an opportunity for all project staff to become familiar with the design and the quality control process that will be required on this project. Particular attention should be directed to defining specific individual responsibilities and assuring their understanding.

A method for monitoring and documenting the QC processes is essential to achieve the desired results. This process should easily and quickly verify the entire Quality Control process. A checklist should be developed for quick reference and periodic review by the Project Principal and ADOT.

## **1026 Consultant Personnel**

The Consultant's work shall be performed and directed by the assigned key personnel as identified in the technical and fee proposal. Any changes in the Consultant's key personnel assignments or the Consultant's assigned Project Principal or Project Manager shall be subject to review and approval by the Predesign Project Manager.

## **1030 Acceptability of the Work**

The plans, design concept, calculations, reports and other documents furnished under this Scope of Work shall conform to the "standards-of-the industry" quality. The criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and having the originator and checker identified.

## **1040 Study Documentation**

If requested, the Consultant shall submit their file design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the contract documents to ADOT for review.

The design notes and computations shall be archived on 8-1/2" x 11" computation sheets, appropriately titled, numbered, dated, indexed and signed by the designer and checker. Computer output forms and other oversized sheets shall be folded or legibly reduced to 8-1/2" x 11" size. The data shall be bound in hard-back folders for submittal to ADOT.

At the project completion, a final set of the design notes and computations, sealed by a Professional Engineer, registered in the State of Arizona, shall be submitted with the record set of plans and tracings.

Design notes and calculations shall include, but are not necessarily limited to, the following data:

- A. Field survey notes and computations.
- B. Design criteria used for the project.
- C. Geometric design calculations for horizontal alignment.
- D. Vertical geometry calculations.
- E. Right-of-way calculations (including easements).
- F. Drainage computations and reports.
- G. Bridge and culvert selection evaluation documentation to include hydrology and hydraulic computations and reports and Scour Evaluation Technical memorandums for existing cross drainage structures.
- H. Earthwork calculations not included in the quantity computation booklet.
- I. Calculations showing cost comparisons of various alternatives considered.
- J. Calculations of quantities.
- K. Documentation of meetings, telephone conversations, and site visits.

#### **1045 Computer-Aided Drafting and Design (CADD)**

The use of a CADD system for this project is required.

All submittals, including drawings, exhibits, and storage media shall be prepared using Bentley MicroStation V8 software.

The consultant shall ensure that all submitted files match the final sheets and that each file can stand independently of any other. (Reference files are not permitted in the final submittals.)

Submittals shall conform to the following requirements of current ADOT CADD Standards, Volumes 1, 2, 3 and 4:

General Specifications

## CADD Data Acceptance and Release Rules

All drafting requirements, including line weights and styles, symbols, lettering and CADD levels

Exceptions to the CADD Standards for this project are:

All existing culverts, cattle guards, and luminaries shall have a line code of 1 and a line weight of 2.

All file deliverables shall conform to the ADOT CADD Standards.

## **1050 Value Analysis**

The design and project development performed under this contract will be subject to value analysis. For the purposes of this Scope of Work, "Value Analysis" consists of those tasks performed by a Value Analysis Team in accordance with the Value Analysis Program Manual which is available from the ADOT Special Programs Section. Any studies or other activities of a similar nature, shall not be referred to as "Value Analysis."

Projects estimated to cost in excess of \$25 million shall be value analyzed at either the pre-final Design Concept Report or Initial Design stages. Projects estimated to cost in excess of \$10 million may be value analyzed as recommended by the Consultant or by ADOT. The Consultant is encouraged to recommend value analysis for ADOT standards and specifications, as well as for this project. All studies must be approved in advance by the Deputy State Engineer, Engineering, as noted in the above-referenced Policy and Procedures.

### **1051 Value Analysis Team**

The value study may be performed by a Value Analysis Team consisting of ADOT personnel, personnel from other consultants or other outside agencies, or a combination of these sources. The Consultant shall cooperate fully with the Value Analysis Team, providing necessary background information for analysis, although not normally participating in the formal study.

### **1052 Consultant's Responsibilities**

The Consultant, upon notification of the approval of a value study, shall compile appropriate data for analysis and make a presentation to the Value Analysis Team, in accordance with the Study Plan prepared by the Value Engineer. The Consultant shall communicate and cooperate fully with the Value Engineer, the Predesign Project Manager, and the Value Analysis Team.

It is expected that the elements necessary for a value study can be assembled and delivered by the consultant with minimum expenditure of effort and time under its normal design procedures in approximately four (4) working days. The Consultant will be allowed to budget 32 work-hours for data compilation, the presentation, and study response, if appropriate. The Consultant shall report the hours expended and estimated costs of labor and materials to the ADOT Value Engineer for cost tracking and value analysis program evaluation purposes.

In accordance with the Program Manual, the findings and recommendations of the value study will be forwarded to the ADOT Group Manager(s) for review. If the Group Manager(s) disagree(s) with some or all of the recommendations, the Deputy State Engineer will make a final determination. The Consultant shall implement the approved findings and recommendations of the value study. If significant redesign is necessary, the additional work will be added to the Scope of Work by Contract Modification.

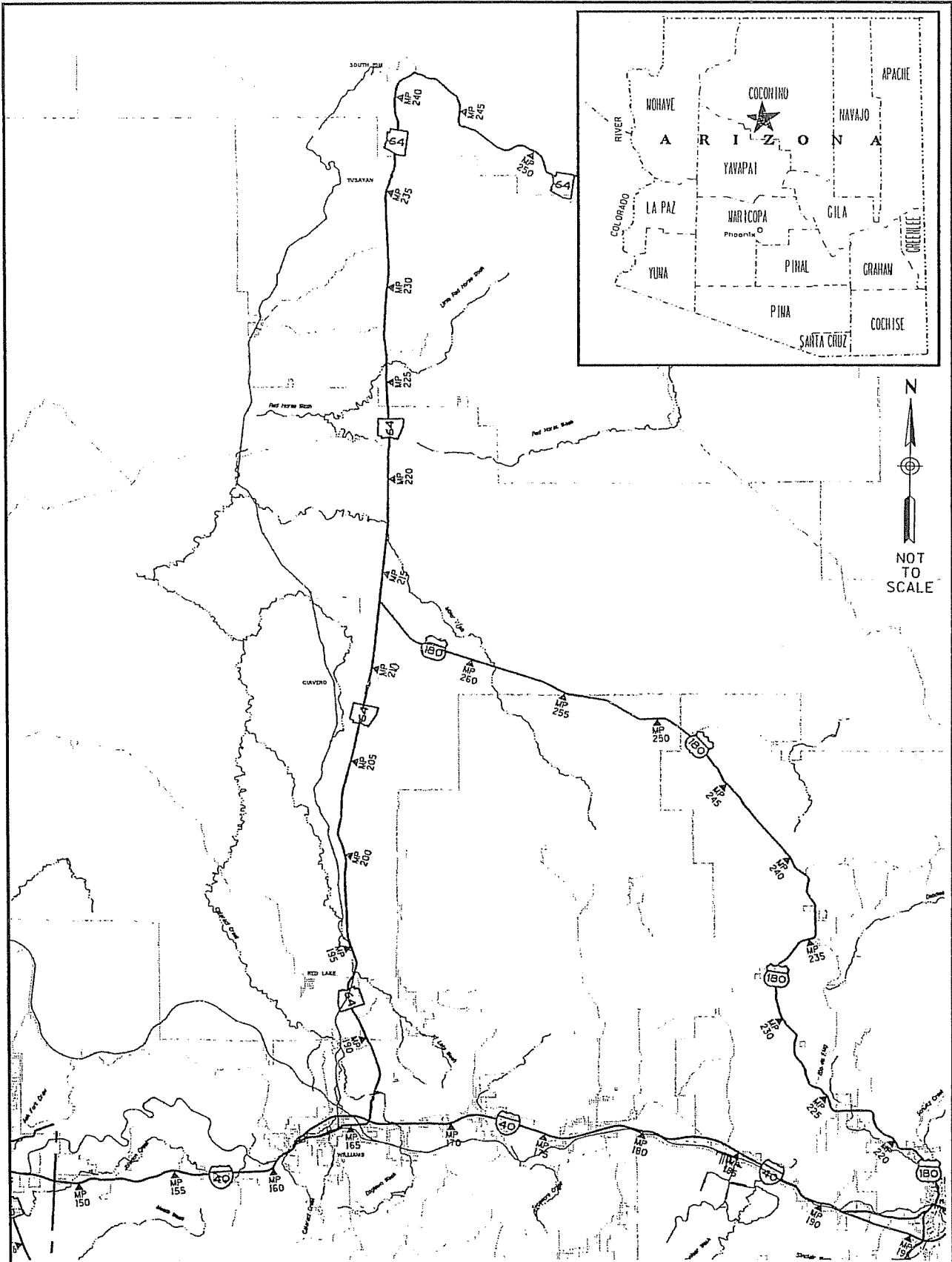
## **1060 Reviews and Submittals**

Review and coordination of the Consultant's work by ADOT will continue through the project development process. The Consultant may continue design efforts while design submittals are being reviewed by ADOT. Doing so however in no way relieves the Consultant of the responsibility to incorporate review comments into the design, nor does it entitle the Consultant to any additional fees as a result of making changes due to review comments.

The Consultant shall submit the items required for review as outlined in this Scope of Work. Concurrent with each submittal, the Consultant shall submit to ADOT a Statement of Verification of computer programs. The Consultant shall also submit a certification of compliance accompanied by evidence (e.g. check prints, sign off sheets, etc.) documenting compliance with the Consultant's Quality Control program (reference Section 1024 of this Scope of Work). The certificate shall specifically address the items included and the submittal phase.

Copies of all documents delivered to ADOT by the Consultant shall be accompanied by a transmittal letter and distribution list with complete mailing addresses. All deliveries shall be by hand or overnight courier. All plans shall be half-size black and white sheets. In addition, the Consultant shall submit any working documents electronically as required by the Project Manager and an electronic submittal that includes all final documents with an appropriate index and brief descriptions of any folders, sub-folders, and files created therein.

# APPENDIX A LOCATION MAP



## APPENDIX B RESPONSIBILITY CHART

	ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
<b>A</b>	<b>AERIAL MAPPING</b>	Apndx. C			
	1. Photogrammetric Control & Panels			X	
	2. Aerial (Color) Photography			X	
	3. Photogrammetric Compilation				
	a. Planimetric Map			X	
	b. Topographic Map			X	
	c. Digital Terrain Model			X	
	d. Orthophotos			X	
	e. Drainage Area Map			X	
	f. Right-of-Way Map			X	
	4. Roadway Cross Sections		X	X	
	5. Drainage Cross Sections		X	X	
	6. USGS Mapping				X
<b>B</b>	<b>CONTROL SURVEYS</b>	Apndx. C			
	1. Horizontal			X	
	2. Vertical			X	
	3. Topographic Map			X	
	4. Utility Locations			X	X
	5. Right-of-Way			X	X
	6. Roadway Cross Sections		X	X	
	7. Drainage Cross Sections		X	X	
	8. Structures Surveys			X	
<b>C</b>	<b>ENVIRONMENTAL</b>	Apndx. C			
	1. Environmental Document		X		
	2. Air Quality Technical Report		X		
	3. Noise Analysis Technical Report		X		
	4. Cultural Resources Survey		X		
	5. Visual Impact Analysis		X		
	6. Biological Evaluation		X		
	7. Public Meetings/Hearing		X	X	
	a. Advertising		X	X	
	b. Presentation Materials		X		
	c. Moderator		X		X
	d. Technical Questions		X	X	
	e. Transcript		X		X
	f. Responses to Public Comments		X	X	X
	8. Hazardous Materials Survey		X		



	ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
<b>D</b>	<b>MATERIALS INVESTIGATION</b>	Apndx. C			
	1. Provide Soil Survey				
	a. Roadway		X		
	b. Lateral Ditches		X		
	c. Earthwork		X		
	d. Retention/Detention Ponds		X		
	2. Provide Bridge Foundation and Retaining/Sound Wall Foundation Investigations	N/A			
	3. Provide Testing and Analysis		X		
	4. Provide Preliminary Pavement Design		X		
	5. Materials Memorandum	N/A	N/A		
<b>E</b>	<b>DESIGN TRAFFIC DATA</b>	Apndx. C			
	1. Gather Statistics				
	a. 2-Way ADT		X	X	
	b. Turning Movements		X		
	c. Cross Traffic		X		
	2. Prepare Traffic Data Sheets		X		
	3. Prepare Equivalent 18 Kips	N/A	N/A		
	4. Prepare Traffic Analysis		X		
	5. L.O.S. Analysis		X		
	6. Composite Traffic Control Device Plan	N/A	N/A		
<b>F</b>	<b>RIGHT-OF-WAY</b>	Apndx. C			
	1. Develop Requirements		X	X	
	2. Prepare Maps for R/W Report	N/A	N/A		
	3. Secure Title Search	N/A	N/A		
	4. Prepare R/W Plans and Legal Descriptions	N/A	N/A		
	5. Prepare Transfer Documents	N/A	N/A		
	6. Provide Appraisals	N/A	N/A		
	7. Negotiate Right-of-Way	N/A	N/A		
	8. Condemnation Proceedings	N/A	N/A		
	9. Testify in Court	N/A	N/A		
	10. R/W Cost Estimates		X		
	11. Relocation Assistance	N/A	N/A		
	12. Property Management	N/A	N/A		
	13. Clearance Letter	N/A	N/A		

	ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
<b>G</b>	<b>CONSTRUCTION PLANS</b>	N/A	N/A		
	1. Plot Design Survey	N/A	N/A		
	2. Basic Roadway Plans Preparation	N/A	N/A		
	3. Drainage Design	N/A	N/A		
	4. Bridge Design	N/A	N/A		
	5. Roadway Lighting Plans	N/A	N/A		
	6. Traffic Signal Plans	N/A	N/A		
	7. Signing & Pavement Marking Plans	N/A	N/A		
	8. Utility Adjustment Plans	N/A	N/A		
	9. Maintenance of Traffic Plans	N/A	N/A		
	10. Landscape Architectural Design	N/A	N/A		
<b>H</b>	<b>RISK (ECONOMIC) ASSESSMENT</b>	N/A	N/A		
	1. Prepare Risk (Economic) Assessment	N/A	N/A		
<b>I</b>	<b>SECTION 404 PERMIT</b>	Apndx. C			
	1. Coordinate with Permitting Agencies		X	X	
	2. Prepare Permit Application				
	a. Forms		X		
	b. Sketches		X		
	c. Hydraulic Calculations		X		
	d. Supporting Documents		X		
	3. Process Permit Application			X	
<b>J</b>	<b>UTILITY &amp; RAILROAD</b>	Apndx. C			
	1. Utilities Identification		X		
	2. Submit Railroad Data		X		
	3. Conduct Utility Predesign Conference	N/A	N/A		
	4. Secure Utility Adjustment Plans	N/A	N/A		
	5. Secure Utility Relocation Schedule	N/A	N/A		
	6. Secure Utility Agreements	N/A	N/A		
	7. Process Relocation Schedule & Agreement	N/A	N/A		
	8. Clearance Letter	N/A	N/A		
	9. Prior Rights Information	N/A	N/A		
<b>K</b>	<b>COST ESTIMATES</b>	Apndx. C			
	1. Prepare Construction Cost Estimates		X		
	2. Prepare R/W Cost Estimates		X	X	
<b>L</b>	<b>REVIEWS AND SUBMITTALS</b>	1060 Apndx. C			
	1. All Reports and Submittals		X		

**APPENDIX C**  
**PROCEDURES FOR**  
**FEASIBILITY, LOCATION/DESIGN CONCEPT STUDIES**  
**AND**  
**ENVIRONMENTAL STUDIES**

**GENERAL**

**Purpose**

This document supplements the Project Scope of Work and outlines procedures required for Feasibility/Location/Design Concept Studies and Environmental Studies.

An attempt has been made to list the procedures in chronological order of occurrence, however, it is understood that many of the required procedures occur concurrently. In particular, procedures relating to development of the Design Concept Report proceed concurrently with environmental studies.

It is also understood that Design Concept Studies and Environmental Studies are "discovery processes" and that modifications to these procedures may be necessary during the development of the project. Such modifications will be made with the joint agreement of the Consultant and ADOT.

**Policy**

Feasibility, Location/ Design Concept Studies and Environmental Studies shall be prepared in accordance with ADOT Highway Development Group Policy and Implementation Memorandum No. 89-5 and as outlined herein. Location/Design Concept Studies is used interchangeably in this Appendix C with Design Concept Studies (L/DCR and DCR).

**Local, State and Federal Permits**

The Consultant shall determine the need to obtain any federal, state, and local permits and shall so advise ADOT no later than 60 days from the notice to proceed. The Consultant shall be responsible for obtaining any required survey permits from the appropriate federal, state, or local agencies, and for obtaining any required rights of entry.

**Temporary Entry Documents**

ADOT will obtain a temporary entry document for entry to each parcel for archaeological surveys, geotechnical investigations and location survey work.

The Consultant shall notify ADOT of the need for any temporary entry documents no later than 60 days after the notice to proceed. ADOT will obtain the appropriate owner's signature. The Consultant may not enter any such property prior to approval and acceptance of the temporary entry documents by ADOT.

**Surveys and Mapping**

Any field surveys required shall be suitable for contract documents preparation and meet the technical requirements of ADOT and the State Board of Technical Registration.

All surveys and mapping for projects utilizing existing roadway(s) shall be referenced directly to the existing as-built roadway centerline. The centerline shall be re-established in its original position by locating, marking, staking and referencing the PC, PT, TS, SC, CS, ST, PI (if possible), and a minimum of fifty (50) feet station

intervals along the curves and one hundred (100) feet station intervals on tangents. The use of offset baselines for re-establishing or defining the existing centerline is not permitted unless approved in advance by ADOT. The centerline stationing of the project shall be on ADOT's established field stationing.

Completed surveys shall be submitted in permanently bound books (3-ring binders are not acceptable) with the final plans. The surveys shall include locations, stakes and references of control points, (including the beginning and ending points of the project), PC's, PT's and PI's (if possible) of curves, POT's with a maximum interval of one thousand (1,000) feet, and bench marks on alternate sides of the roadway with a maximum interval of five hundred (500) feet. Any survey data provided must be certified by an Arizona Registered Land Surveyor. Any coordinates used shall comply with the Arizona State Plane Coordinate System.

Surveys will include, as applicable:

- a. Base line control
- b. Control for aerial mapping
- c. Right-of-way surveys
  - Section Corner and Land Ties
  - Existing Right of Way Monumentation
  - Staking of New Right of Way for Appraisal Purposes
  - New Right of Way Monumentation
  - A "Results of Survey" map
- d. Topographic surveys
- e. Roadway drainage surveys
- f. Utility locating - set control points with coordinates and elevations at five hundred (500) ft. maximum intervals adjacent to the road and along the utility lines (See Section 430)
- g. Centerline staking, centerline of each roadway, as applicable for field review (lath stakes at PC, PI and PT's, at approximate two hundred (200) ft. intervals, and at selected locations if required to define the approximate limits of construction)
- h. Centerline and edge elevations of existing pavement at fifty (50) ft. intervals
- i. Ties to Arizona State Plane Coordinates
- j. Final alignment staking
- k. Crossroads tie-ins, turnouts and driveways
- l. Above ground utilities

The Consultant shall obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required. Preparation of surveys shall conform to applicable documents referenced in Section 200 of the Scope of Work, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

Unless otherwise directed by the ADOT Predesign Project Manager, the Consultant shall be responsible for selecting a scale that results in good plan clarity. The following scales are suggested:

- a. 1" = 500' (Drainage map and R/W key sheet)
- b. 1" = 200' (Concept Plans and R/W maps)
- c. 1" = 20' (Intersections, urban streets, and other items of considerable detail)

The consultant may be responsible for delineating the proposed new centerline, right-of-way, and/or toe of slope to assist in the evaluation of the proposed alternates, utility locations, and to assist with any required archaeological testing.

Completed surveys and maps shall be recorded in an acceptable format. Upon final approval, the books, maps and CADD files, and other diskettes, shall be submitted to the ADOT Predesign Project Manager.

## Utilities and Railroads

The Consultant shall establish contact with utility and railroad companies to obtain all applicable facility location mapping. The Consultant shall coordinate all activities with the various utility companies. After initial contact, ADOT Utility & Railroad Engineering Section (URR) will coordinate activities between the Consultant and railroad companies. The Consultant shall furnish URR with copies of all correspondence between the Consultant and the utility and railroad companies. All correspondence shall include complete TRACS No., Project No., Highway Section, and Project Location.

Where a utility conflict is evident and relocation is required, the Consultant shall request URR assist in the estimation of relocation costs. The Consultant shall provide URR with all conflict information and the proposed solution. URR will contact the utility company to determine their prior rights status and determine who will pay for the utility relocation. If it is determined the cost of utility relocation is to be included in the project costs, URR will instruct the Consultant to include the cost, including materials, labor and engineering, in the L/DCR, subject to review by URR.

The Consultant shall distribute as many copies as necessary of the design concept to the affected utility companies. All response comments from the utility companies shall be directed to ADOT.

### **Public Information Meetings & Hearing**

#### **Public Information Meetings**

The Consultant and its staff shall be available, at five (5) workdays notice, to attend meetings or make presentations at the request of ADOT. The purpose of these meetings shall be to inform the public of the scope, details, and anticipated schedule of the project. Such meetings and presentations may be held at any hours between 8:00 a.m. and 12:00 midnight on any day of the week except legal holidays. The Consultant shall be responsible as applicable, for the preparation of graphics, hand-out materials, minutes of the meetings, audio-visual displays and similar material for such meetings. All such materials shall prominently identify ADOT. Payment of premium overtime for this activity must have prior approval of ADOT.

#### **Public Hearing**

The Consultant and its staff shall be available, at five (5) workdays notice, to attend or make presentations at Public Hearings at the request of ADOT. The purpose of these hearings shall be to inform the public of the preferred alternative, provide information about the issues leading to the recommendation and provide the public with an opportunity to comment on these recommendations and issues. Such hearings and presentations may be held at any hours between 8:00 a.m. and 12:00 midnight on any day of the week except legal holidays. The Consultant shall be responsible as applicable, for the preparation of graphics, hand-out materials, minutes of the hearing, audiovisual displays and similar material. All such materials shall prominently identify ADOT. Payment of premium overtime for this activity must have prior approval of ADOT.

### **Meeting Notifications**

Meetings and site visits shall be announced a minimum of two weeks (preferably four weeks) prior to the meeting.

### **Pre-review of Submittals**

Upon completion of any report for distribution, the Consultant shall prepare and submit, to ADOT Predesign Section, two preliminary copies of the complete document, transmittal letter, and distribution list for pre-review. Upon receipt of comments, the Consultant shall prepare and distribute the documents for formal review.

### **Order of Events (As Applicable)**

The following steps and reports may be necessary in order to complete an acceptable Design Concept Study and Environmental Documents. The steps/reports are listed in approximate chronological order and are discussed in subsequent sections of this document.

- Initial Site Visit
- Notice to Proceed
- Project Team Meetings (Kickoff & Progress)
- Data Collection
  - Problem Statement, Project Assessment, Previous Studies
  - Program Data
  - Other Data
  - Video Tape Project
- Photogrammetry, Surveys, Mapping, Digital Terrain Modeling
- Reports
  - Public Involvement Plan
  - AASHTO Controlling Design Criteria Report
- Project Scoping
  - Project Team Scoping Meeting
  - Agency Scoping Meeting
  - Scoping Field Review
  - Public Scoping Meeting
  - Project Scoping Report
- Alternatives Selection (Developed during preparation of the Feasibility Report)
  - Project Team Meeting (Alternatives Selection)
  - Agency Information Meeting (Alternatives Selection)
  - Public Information Meeting (Alternatives Selection)
  - Feasibility Report (Including Environmental Overview)
- Reports
  - Preliminary Geotechnical Report
  - Preliminary Drainage Report
  - Preliminary Traffic Report
  - Biological Evaluation Report
  - Bridge/Structure Concept Report
  - Cultural Resources Report
  - Air Quality and Noise Analysis Report
  - Hazardous Materials Survey Report
  - Visual Impact Analysis
- Identify Recommended Alternative
  - Project Team Meeting (Recommended Alternative)
  - Agency Information Meeting (Recommended Alternative)
  - Public Information Meeting (Recommended Alternative)
- Initial Location/Design Concept Report (Concurrent with Draft Environmental Document)
- Draft Environmental Document (Concurrent with Initial Location/Design Concept Report)
- Review and Approval
  - Project Team Meeting (L/DCR & Environmental Document)
  - Agency Meeting (L/DCR & Environmental Document)
  - Public Hearing (L/DCR & Environmental Document)
  - Comment Resolution
  - Comment Resolution Documentation for Initial Location/Design Concept
  - Comment Resolution Documentation for Draft Environmental Document
- Reports
  - Corridor Implementation Plan
  - Change of Access Report
  - Final AASHTO Controlling Design Criteria Report and Request for Design Exceptions and Deviations
- Final Location/Design Concept Report (Concurrent with Final Environmental Document)
- Final Environmental Document (Concurrent with Final Location/Design Concept Report)
- Document Printing and Distribution.

## INITIAL SITE VISIT

An initial site visit will be held with the ADOT Predesign Project Manager and the Consultant's key personnel. The purpose of this site visit is to acquaint the Predesign Project Manager and the Consultant with the project objectives, issues, and concerns and to provide input to assist in the preparation of scope modifications, contract hours and costs for contract negotiations.

## NOTICE TO PROCEED

Design Consultants are issued a written Notice To Proceed by Engineering Consultant Section after contract negotiations are completed.

## PROJECT TEAM MEETINGS (KICKOFF & PROGRESS)

A Project Team Kickoff Meeting and periodic Progress Meetings will be held with key ADOT personnel, the Consultant's key personnel, sub-consultants, and significantly involved agency representatives. The purpose of the meetings is to acquaint ADOT, the Consultant, the sub-consultants, and involved agencies with the project objectives and progress and to maintain a strategy for effectively completing the project.

At minimum, the following representatives shall be invited to participate in the meeting:

### ADOT

- Aeronautics Division
  - Grand Canyon Airport
- Predesign Section
  - Section Manager
  - Predesign Project Manager
- Environmental Planning Group
  - Project Representative
- Statewide Project Management
  - Project Manager (Future)
- District Engineer
- District Maintenance Engineer
- District Development Engineer
- Specialty Disciplines as appropriate
  - Roadway Design
  - Traffic Design
  - Drainage Design
  - Bridge Design
  - Geotechnical Design
  - Right of Way
- Communications and Community Partnerships as appropriate
- Flagstaff Metropolitan Planning Organization (FMPO) and
- Northern Arizona Council of Governments (NACOG)

### Consultant

- Project Manager
- Project Engineer
- Environmental Planner
- Specialty Disciplines

### Sub-consultants

### Agency Representatives

- FHWA
- Federal
- Forest Service

Bureau of Land Management  
Fish and Wildlife  
National Park Service

State

Game and Fish Department  
State Land Department  
Department of Public Safety

County (Coconino)

City (Williams)

Communities

Indian  
Tusayan

At the Kickoff Meeting, the Project Team will identify other key organizations from which to gather information. These organizations may include the following:

Chamber of Commerce  
Special Interest Groups  
Civic Organizations  
Service Organizations  
Schools  
Emergency Services  
Utilities  
Railroads

At the Kickoff Meeting, the Project Team will schedule the Agency Scoping Meeting, Field Review, and Public Scoping Meeting.

The frequency, location, and duration of subsequent Progress Meetings will be determined by the Project Team as approved by the Predesign Project Manager.

## DATA COLLECTION

### Problem Statement, Project Assessment, Previous Studies

If a Problem Statement, Project Assessment, or previous studies were prepared for the project, obtain and review the file for completeness of available data.

### Program Data

Projects that have been programmed will have the following data available. For projects that have not been programmed, this data may need to be developed:

ADOT District, ADOT Prefix Number, TRACS Number, Federal Reference Number, Project Name, Project Description, Fiscal Year, Item Number, Budget Amount, and Funding Source. This data may be obtained from the current ADOT Five-Year Highway Construction Program.

The CPS ID and Bid Advertising Date, if established, are available in the Preconstruction Engineering Management PS003 5-Year Bid Date Report.

The PCEM Model, Late Start & Finish Dates, if established, are available in the Preconstruction Engineering Management 90 Report.



The category, purpose and programmed limits are available on the Problem Statement. This document is the original request for including a project in the Five - Year Highway Construction Program. The Problem Statement is available from Transportation Planning, some will be available in Predesign Section. The project limits and location are defined more accurately in the Problem Statement.

If unable to find or acquire these items the Consultant should refer to the Predesign Project Manager.

#### **Other Data:**

Review the Milepost Log and State Highway System Log to correlate the project limits with Mileposts and roadway stationing.

Review the Five-Year Highway Construction Program (current and tentative), Corridor Studies, etc. for projects in the vicinity of this project.

Check Corridor Study/Small Area Study and State Highway System Plan for future/proposed project(s) or typical sections. Most Corridor Studies are available in Predesign Section files; if not, Transportation Planning should be contacted.

Check the Highway classification to assist in design speed determination and for use in review and/or preparation of the AASHTO Controlling Design Criteria Report.

Obtain all as-built drawings and maps for the project from ADOT Engineering Records. Copies of as-built plans are free to consultants under contract to ADOT. Consultants under contract can obtain up to two free copies of maps, specifications, and other types of documents.

Request from Transportation Planning Division (TPD) and the appropriate Metropolitan Planning Organization (MAG/CAAG) the current and projected design year Average Daily Traffic Count (ADT), along with K (Design Hour Factor), T (% Trucks & Recreation Vehicle), D (% Directional Distribution Factor) and the location of any traffic counter loops existing or required. If the project contains an Interchange include ramps and crossroads in your request. Data should be requested for the program year with projection for twenty years.

Request the last Five-Year Accident Report from Traffic Group, Studies Section.

Request from Materials Pavement Section preliminary pavement structural data and any recommended special oils or percentage of oils that may vary from the standard specifications and would influence the cost of these items in the estimate.

Using the Bridge Record Log, prepare a Bridge Evaluation Request and forward to Bridge Group, Bridge Management Section for evaluation. Do not include concrete box culverts unless they are multi-barreled and have a structure number and a bridge barrier.

Request from Right-of-Way Section the assessors maps and ownership records of the properties adjacent to and within the existing and proposed right-of-way. This will provide the information needed to plot property lines on the aerial photos and mapping used for exhibits. Acquire the names and address of property owners that are within three hundred feet of the project. Provide this list to the Environmental Planning Group for use in notification of public informational meetings and public hearings. This ownership list will also be of use for acquiring rights of entry for surveys (archaeology, hazardous waste, alternative centerlines and/or proposed rights-of-way).

Obtain additional property ownership information from County Assessors maps.

Obtain available utility plans and information.

Obtain any other available mapping such as County Highway maps.

Contact any ADOT Sections necessary to obtain available information. Record all pertinent verbal communications.

Depending on the particular project there may be a need for additional or different data than which was described above.

### **Video Tape Project**

The Consultant shall document via video (DVD) the project in both directions with additional taping of areas of significant concern. A running commentary of the project shall be included on the video.

### **PHOTOGRAMMETRY, SURVEYS, MAPPING, DIGITAL TERRAIN MODELING**

The Consultant shall research all available ADOT photogrammetry, survey, mapping, and digital terrain modeling; and identify/obtain additional data as required to complete the study.

### **REPORTS**

#### **Public Involvement Plan**

The Consultant shall be responsible for the development of a Public Involvement Plan that identifies the number, purpose, and schedule of public information meetings, as well as the Public Hearing and any additional efforts to provide community involvement. These activities might include a website, mailings, flyers, newsletters, displays, questionnaires, handouts, surveys, construction alerts or meetings with citizens committees or local organizations, special presentations, or point contacts.

The Public Involvement Plan will be submitted within 60 days of "Notice to Proceed." This effort will be coordinated with and approved by the Predesign Project Manager and Environmental Planning Group and Communications and Community Partnerships.

The Consultant shall provide staff and/or materials for public information meetings and public hearings. The Consultant shall schedule a strategy meeting at least two weeks prior to any public meeting with the Predesign Project Manager, ADOT Environmental Planning Group, ADOT Communications and Community Partnerships, and any necessary sub-consultants or participants. The purpose of this meeting will be to determine meeting format, necessary graphics and to identify the roles of all participants. ADOT Communications and Community Partnerships will be responsible for advertisement of all public meeting notices and will make all arrangements for the public meetings and will arrange for liability insurance, as required.

The consultant shall develop and maintain mailing lists for all affected public and private agencies and organizations and all private individuals who have commented on the project or who have expressed an interest in being on the mailing list.

#### **Initial AASHTO Controlling Design Criteria Report**

As part of the study, the Consultant shall, using "as-built" plans and a field reconnaissance, perform a complete roadway inventory and evaluate the existing roadway for compliance with AASHTO Controlling Design Criteria as specified in ADOT Planning and Engineering Groups "Procedural Guide for Review of the AASHTO Controlling Design Criteria on Existing ADOT Roadways."

The Consultant shall prepare an Initial AASHTO Controlling Design Criteria Report which shall identify existing design features which do not comply with desired AASHTO design criteria such as: lane and shoulder widths, vertical and horizontal alignments, stopping sight distance, superelevation, design speed, grade, cross slope, vertical clearance, bridge width, structural capacity, bridge rail, design traffic volume, and intersection sight distance.

Using information developed in the Initial AASHTO Controlling Design Criteria Report, traffic accident data furnished by ADOT Traffic Group, and other available information, the consultant shall evaluate existing design features which do not comply with AASHTO design criteria and incorporate design modifications into the recommended roadway alternative as appropriate.

## **PROJECT SCOPING**

### **Project Team Scoping Meeting**

A Project Team Meeting will be held in preparation for the Agency Scoping Meeting, Scoping Field Review, and Public Scoping Meeting. This Team Meeting will be held at least four weeks prior to the agency/field/public meetings. The purpose of this meeting will be to:

- Identify participants
- Review graphics and exhibits
- Review possible questions and answers
- Identify strategies
- Prepare Meeting Advertisement

Note: the advertisement must be completed four weeks prior to the Public Meeting to allow for review and public advertisement two-weeks and one-week prior to the Public Meeting.

### **Agency Scoping Meeting**

Depending on the type and complexity of the project the agency scoping meeting may be held in different ways. The Consultant will normally conduct and/or moderate this meeting and prepare all coordination letters.

For uncomplicated projects where most of the agencies will not have any input or concerns the written coordination process usually is sufficient, and the scoping meeting can be held in conjunction with the field review.

For complex or controversial projects, a broader scoping process may be desirable, with a meeting held in a convenient location prior to scheduling of the field review. This allows the agencies to voice their concerns and point out the areas that may need additional attention during the field review. Having an agency scoping meeting prior to the field review will also reduce the number of participants attending the field review and allowing for the more technical aspects to be discussed.

As alternates are generated it may be necessary to meet with the different agencies to clarify and/or refine their concerns.

The following is a general list of agencies that may receive coordination letters for the project:

- All ADOT Disciplines including;
  - Supervisor, Research Branch, EPG (for air and noise evaluation)
  - Archaeologist EPG (for cultural resources survey)
  - Roadside Development Section
- Bureau of Land Management
- U.S. Forest Service
- U.S. Army Corps of Engineers

Fish and Wildlife Service (for federal projects)  
 Arizona State Land Department  
 Arizona Game and Fish Department (AGFD)  
 Arizona Department of Water Resources  
 Arizona Commission of Agriculture and Horticulture (ACAH)  
 Arizona Department of Public Safety  
 Relevant City or County engineer  
 Relevant City or County planner  
 Relevant Council of Government Association (COG)  
 Relevant utility companies  
 Irrigation or water user's associations  
 District flood control office (may be a separate function or part of a local government's engineering department)  
 Resident's or home owner's associations

All of the above may or may not need to be notified, also there may be other agencies not listed that may need to be included.

Any coordination by the consultant for environmental purposes including scoping and invitation to the agency scoping meeting must first be coordinated with EPG. Consultant must also coordinate with EPG when preparing the scoping letters and agency invitation letters, and EPG will sign scoping letters. The consultant shall not call any meetings with any agency without first coordinating with EPG, or else as specifically advised on what can be discussed if the consultant does the coordination.

### **Scoping Field Review**

The Consultant shall arrange a visit to the project site with ADOT, FHWA, local jurisdictions, utility companies, major land owners, and other agency representatives. The site visit shall be scheduled at least two weeks prior to the visit. The visit should be held shortly after the Consultant is authorized to proceed, preferably within 30 working days of the receipt of written Notice to Proceed, or as otherwise approved by the Predesign Project Manager. It is preferred that this site visit be held on the same day as, or combined with, the Agency Scoping Meeting.

ADOT representatives and Consultant personnel assigned to perform the work on the project shall attend. The FHWA will attend at its own discretion. The purpose of this visit is to acquaint key personnel with the details and features of the project and to gather input on issues, concerns and opportunities.

Prior to scheduling the field review the consultant shall contact key participants (i.e. District Engineer, Federal Highway Administration, Project Initiator and Predesign Project Manager) for a consensus on a date to insure that they can attend or have a person with knowledge of their desires and with the authority to make decisions and/or recommendations regarding the project, attend in their stead. After reaching a consensus for the date and time a letter of notification shall be sent a minimum of two weeks (preferably four weeks) prior to that date to all of the invited personnel and/or agencies.

It is recommended that the consultant visit the site with an assistant or staff members to become familiarized with the existing conditions, gather any needed measurements (i.e. superelevations, slope rates, pavement widths, clear zone, etc.) and do the major portion of the video taping prior to the scheduled field review, thus allowing more time for the District and/or agencies present to input technical information for alternatives and to discuss their concerns and issues.

The Consultant shall record all major conflicts, comments, and preferences voiced by the involved parties during the field review.

### **Public Scoping Meeting**

The Consultant shall present several preliminary layouts or alternatives to the public at a Public Scoping Meeting. These normally are line type presentations on aerial photos at an appropriate scale (typically, one inch equal two hundred feet).

This meeting may be held as an open-house meeting, a formal meeting, or as a combination. There should be ample personnel familiar with the project, available to interact with the public on a one-to-one basis.

The Consultant shall coordinate with Communication and Community Partnerships (CCP) and Environmental Planning Group (EPG) to determine the moderator of the public meeting, the meeting site, and inspection of the facilities for adequacy. With prior agreement between the Consultant, CCP and EPG, the Consultant will be responsible for insurance and any fees charged for use of the meeting facilities, along with required advertising. EPG and the Consultant will also provide a sound system, easels and signs for directing the public to the meeting room.

A sign-in sheet with space for names and addresses and blocks to be checked if they wish to be on mailing list for future informational updates and/or newsletters concerning the project. A comment sheet for written comments shall be available. The comment sheet may have some of the concerns and/or issues list to help solicit comments. It should have an optional signature line. The public can deposit their comment sheets in a comment box or mail them by a given date; therefore, there should be a name and address for the person responsible for receiving and compiling of these comments.

## **Project Scoping Report**

The Consultant shall prepare a brief written report which includes an Executive Summary; meeting minutes or summaries of the Agency Scoping Meeting, Field Review, and Public Scoping Meeting; copies of handouts and graphics, and attendance lists or sign-in sheets from each meeting. The purpose of this report is to summarize all activities associated with the meetings.

## **ALTERNATIVES SELECTION**

### **Project Team Meeting (Alternatives Selection)**

A Project Team Meeting will be held to present the selected alternatives to the Project Team and ADOT specialty disciplines and to prepare for the Agency and Public Information Meetings. The Consultant will present alternatives considered, provide an evaluation matrix, make recommendations, solicit comments, and obtain consensus. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information meetings.

### **Agency Information Meeting (Alternatives Selection)**

An Agency Meeting will be held to present the selected alternatives. The discussion, comments and consensus from this meeting will be incorporated as the Consultant continues development of the project.

The Agency Information Meeting may be supplemented with, or replaced by, an Agency Field Review.

### **Public Information Meeting (Alternatives Selection)**

A Public Information Meeting will be held in the project vicinity to present the proposed alternatives and solicit comments from the public and interested organizations.

## **Alternatives Selection – Feasibility Report**

The Consultant shall prepare a brief Feasibility Report from the previously completed Feasibility Study recommending those alternatives to be carried forward for complete evaluation in the Initial Location/Design Concept Report and Draft Environmental Document.

The report will serve as documentation of the Project Team Meeting, Agency Information Meeting, and Public Information Meeting and will contain minutes and exhibits from those meetings.

The number of alternates recommended will depend on the type of project, but will normally be six or seven which will be reduced to three or four along with a “no build”.

The Consultant's alternative recommendations will be supported by the Consultant's research, the Initial AASHTO analysis, drainage evaluations, utility and right-of-way information and other information of record, results of the Agency Scoping Meeting, results of the Field Review, and results of the Public Scoping Meeting including the previously completed Environmental Overview for SR 64 Feasibility Study.

Utilizing ADOT or USGS mapping, the Consultant shall prepare initial alignments and/or alternatives to the extent necessary to evaluate the alternatives with regard to advantages and disadvantages of the following:

- Geometrics and terrain limitations
- Off site drainage
- Traffic accommodation during construction
- Cost
- Environmental Overview
- Other issues of concern (public acceptability, right-of-way, etc.)

The Feasibility Report shall contain the following:

- Executive Summary
- Alternatives Graphics
- Evaluation Matrix
- Minutes from, or a summary of:
  - Alternatives Meeting
  - Agency Information Meeting
  - Public Information Meeting
- Responses to Public Concerns
- Recommendations

The Report shall be distributed to all individuals who will ultimately receive the Design Concept Report (DCR) for consensus on recommendations. Comments disagreeing with the recommendations will be evaluated by the Project Team and responded to. If comments result in modifications of recommendations, a letter documenting the recommended change will be circulated for concurrence.

If substantial changes are made over what was presented to the public, it may be necessary to have another informational meeting prior to proceeding with the Initial Location/Design Concept Report.

## **REPORTS**

### **Preliminary Geotechnical Assessment Report**

The Consultant shall research existing "as-built" drawings and records and coordinate with ADOT Materials Group Geotechnical Section and conduct a site visit with a qualified Geologist or Geotechnical Engineer who shall make observations of the materials encountered and their relative suitability for construction. A

Preliminary Geotechnical Assessment Report shall be prepared and an assessment of the site shall be included in the DCR.

### **Preliminary Drainage Report**

The Consultant shall perform a drainage study in accordance with current ADOT methodology.

The Consultant should obtain and assess available pertinent public information to identify flood plains and their impacts, and determine existing flow patterns and known drainage problems throughout the highway corridor, including downstream reaches within the area of influence of project. Analysis of pre-construction hydrologic conditions should be performed in order to evaluate hydraulics (capacity, velocity, flood over-topping elevations etc.) of any existing structures and the impacts of alternatives considered.

The Consultant shall research and evaluate potential future development (20 year planning horizon) within the watershed that may have an impact on future drainage flows and ultimately the performance of existing or proposed hydraulic structures.

The purpose of the drainage study is to provide preliminary hydrologic and hydraulic information for the various bridge alternatives considered, identify potential drainage problems for the proposed improvement, to recommend solutions, and to establish initial culvert and channel sizes and alignments consistent with the improvement concept.

Existing drainage facilities shall be analyzed for adequacy.

In urban or elevated area there may be a need for an analysis of a collection and disposal system for the roadway drainage.

Information and documentation shall be provided to confirm that no adverse or increased flows or changes to the off-site and surrounding area will take place as a result of this improvement and construction.

The Consultant shall carefully document and photograph all existing drainage problems, carefully evaluate recommended solutions and assure existing conditions are not impacted by proposed roadway improvements.

An office review meeting and a field review of these findings may be necessary for coordination with Drainage Design Section and ADOT Legal.

The Consultant shall document drainage problems, design approaches, solutions, and initial hydraulic structures requirements in a separate Preliminary Drainage Report which will be summarized in the L/DCR.

### **Bridge/Structure Concept Report**

The Consultant shall prepare a Bridge/Structure Concept report and coordinate with ADOT Bridge Group to identify type, size, and location required for preliminary cost comparisons.

### **Preliminary Traffic Report**

#### **General**

The Consultant shall prepare a Preliminary Traffic Report with sufficient detail to identify existing and future capacity and level of service and to develop the number of lanes required, intersection requirements, signal warrants, and interchange requirements to provide an acceptable level of service through the design year.

ADOT Traffic Group should be contacted to determine if traffic counts and turning movements exist at required intersections. The Consultant will be required to provide the data that is not available.

The report shall recommend geometric and/or operational improvements to the mainline, and intersections. This includes turn lanes at intersections, additional lanes on mainline, and other mitigation measures. A LOS "B" or better is desired for the mainline and at signalized intersections.

The Preliminary Traffic report will be a separate report and the results of the study will be summarized in the Location/Design Concept Report.

#### Signals and Lighting

The Consultant shall evaluate the need, according to ADOT Policy, for roadway lighting and signals within the project limits. The Consultant will identify those intersections where traffic signal warrant studies are necessary. The results of those studies shall be reflected in the design concepts developed by the Consultant.

### **Biological Evaluation Report**

A Biological Evaluation Report shall be developed as a separate technical report and shall follow the ADOT Environmental Planning Group guidelines. The Consultant shall summarize Biological Impacts in the Environmental Document.

### **Cultural Resources Report**

#### Cultural Resources Literature Search and Survey

The Consultant shall prepare a cultural resources literature search and conduct a Class 3 survey. The Cultural resources Report describing the investigations conducted, the findings, and recommendations for further action shall be submitted to EPG upon completion of the survey. The Consultant shall summarize the applicable cultural resources information in the Environmental Document. The report shall be submitted to the ADOT Environmental Planning Group for approval but shall not be included in the Environmental Document.

#### Archaeological Testing and Data Recovery

The Consultant shall provide any required technical information to ADOT Environmental Planning Group regarding new R/W or areas that may need archaeological testing. ADOT Environmental Planning Group will perform any necessary testing and recovery.

### **Air Quality and Noise Analysis Reports**

The Consultant shall prepare separate Air Quality and Noise Analysis Reports leading to and supporting the conclusions reached in the environmental evaluation. All technical documentation used to produce these reports will be submitted to ADOT EPG for approval. The Consultant shall summarize impacts from the air and noise studies in the main text of the Environmental Document.

### **Hazardous Materials Survey Report**

The Consultant shall conduct a Hazardous Materials Survey through the use of visual surveys, aerial photo review, past and present land use, regulatory records review, and prepare a report describing the findings and recommendations for further action. The report shall be submitted to ADOT Environmental Planning Group promptly upon completion of the survey. The consultant shall summarize the survey results in the



Environmental Document. Any further investigations or mitigation may be performed by ADOT or may be added to the scope of work by Contract Modification.

### **Visual Impact Analysis**

The Consultant shall summarize the visual impacts in the Environmental Document and Location/Design Concept Report. The analysis will not be developed as a separate technical report

## **IDENTIFY RECOMMENDED ALTERNATIVE**

### **Project Team Meeting (Recommended Alternative)**

A Project Team Meeting will be held to present the recommended alternative to the Project Team and ADOT specialty disciplines and to prepare for the Agency and Public Information Meetings. The Consultant will present the recommended alternative, solicit comments, and obtain consensus. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information Meetings.

### **Agency Information Meeting (Recommended Alternative)**

An Agency Meeting will be held to present the recommended alternative. The discussion, comments and consensus from this meeting will be incorporated as the Consultant continues development of the project. The Agency Information Meeting may be supplemented with, or replaced by, an Agency Field Review.

### **Public Information Meeting (Recommended Alternative)**

A Public Information Meeting will be held in the project vicinity to present the recommended alternative and solicit comments from the public and interested organizations.

## **INITIAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Draft Environmental Document)**

The Consultant shall prepare an Initial Location/Design Concept Report. All work shall be addressed in sufficient detail to clearly document the design concept, substantiate recommendations, document alternate considerations, and identify environmental impacts.

The following is an outline and procedural guide that should be used in preparing the Location/Design Concept Report:

#### **Cover Sheet**

The Cover Sheet shall contain the Project Route No., County, Milepost, TRACS No. Federal Reference No., Project Name, Highway Section Name and Route No. Type of report Initial, or Final, prepared for ADOT by (report author), and date.

#### **Title Page**

The Title Page shall contain the same information as the Cover Sheet. In addition, the Title Page shall contain the ADOT District in which the project is located and the County in which the project is located.

#### **Table of Contents**

#### **Executive Summary**

Brief description of project purpose, location, and scope, TRACS and Federal Aid Project Numbers, milepost limits, length of project, route number, county, program year, programmed and estimated costs, identification of consultant involvement, required coordination with other projects, local government agreements, applicable TPD studies, overall highway corridor goals, specification of public lands involvement such as National Forest, Indian

Reservation, etc. The recommended alternative shall be identified. The estimated cost of design, construction, utility relocation's and right-of-way shall be noted for the recommended alternative.

## List of Figures

## Introduction

### Foreword

Identify the AASHTO Classification of the highway. Identify the posted speed(s). Identify and discuss the major traffic generators.

### Need for Project

Include a complete analysis of why the project is needed. The analysis should describe how the existing highway is functioning and the reasons that prompted ADOT to program or investigate a project at this location. Any cause/effect relationships suggested by review of existing data and interviews with the parties involved shall be identified and discussed.

### Project Objectives

Completely describe the objectives of the project. The data in this section is dependent on the analysis presented in the "Need for the Project" section of the report. The objectives to be accomplished by the project should be the remedies needed to correct the problems identified in "Need for Project."

### Characteristics of the Corridor

This section shall include, but not be limited to the following data:

- The width of the existing pavement and the type of pavement section.
- The lane and shoulder widths of the existing highway. If curb and gutter are present, the locations shall be listed.
- The design speed(s) of the existing highway.
- All previous projects constructed within the improvement section shall be identified. The project numbers and construction dates shall be listed in a table.
- The horizontal and vertical alignments of the existing highway shall be described.
- A description of the existing right-of-way shall be included. The minimum and maximum right-of-way widths shall be noted, and the type of right-of-way, easement or deed, shall be identified. The types of ownership within the project - private Forest Service, Indian Tribe, etc. - shall be identified.
- The drainage characteristics of the corridor shall be described. Any watersheds, drainage's, or waterways within or adjacent to the project shall be identified. A description of all drainage and irrigation facilities within or adjacent to the project shall be included. If there are any agencies or other authorities responsible for the drainage or irrigation facilities, they shall be identified.
- The total number and type of existing drainage structures (bridges, pipes, and concrete box culverts shall be listed. A brief description of the major bridge structures within the project shall be included.
- The surrounding topography and terrain shall be described. The primary geology, soils, and vegetation shall be identified.
- The future land use proposed for the area shall be described. If there are any major developments proposed, the shall be identified and described.

### Description of the Project

Include a complete description of the proposed work for the recommended alternate only. The following data shall be included in the description:

- The length of the project
- The termini of the project. Each terminus shall be identified by milepost and station.
- The total pavement width. If curb and gutter is proposed, the curb to curb width shall be listed. The lane widths, median width, and shoulder widths shall be listed. If there is more than one type of typical section proposed, each shall be completely described, and the effective milepost limits of each shall be listed.
- The total number of lanes shall be noted.
- Any new right-of-way that is needed shall be identified and described. The quantity needed, in acres, and the type of ownership (residential, commercial, Forest Service, etc.) shall be listed
- If curb, gutter, sidewalk, median treatments, or intersection improvements are proposed, they shall be identified and described. Any IGA's for new sidewalk or other proposed facilities shall be described.
- The striping, marking and signing improvements shall be identified and described.
- Any safety upgrades proposed - slope flattening, curve reconstruction, guardrail upgrades, culvert extensions, hazard removals, etc. - shall be identified and described.

- Any drainage improvements proposed - storm-drains, culverts, catch basins, bank protection, scour protection, channel reconstruction, basins, etc. - shall be described.
- Any utility, railroad, or irrigation system improvements or conflicts that will impact the design and construction of the project shall be identified and described.
- The traffic control proposed for the project - detours, construction phasing, tie-ins to adjacent projects, etc. - shall be identified.

#### Location and Vicinity Maps.

#### Traffic and Accident Data

All L/DCR's shall have a "Traffic and Accident Data" Chapter. The Chapter shall contain the following sections:

##### Traffic Analysis

##### Source of Data

The sources that provide traffic data for the report shall be referenced. In most cases, there will only be one traffic data source - the ADOT Travel and Facilities Branch.

##### Origin-Destination Study

Summarize the results of the origin-destination study, if one was conducted.

##### Traffic Data

- The Average Daily Traffic (ADT) Volumes, in vehicles per day, shall be listed. The volumes for both the construction and design years shall be listed.
- The Design Hour Traffic Factor (K), in percent
- The Directional Distribution Factor (D), in percent.
- The Truck Factor (T), in percent
- If needed, intersection counts (including turning movements) and diagrams shall be included.

- If the project includes a Traffic Interchange or Intersection, the data listed above will be expanded to include ramps, crossroads, or all legs of the intersection. The data may also be expanded to include projections of traffic on adjacent interchanges and area wide systems.

##### Traffic Operational Analysis

This section will discuss the results of the traffic analysis and the impacts/solutions suggested by review of the data.

##### Accident Analysis

##### Source of Data

The sources that provide traffic data for the report shall be referenced. In most cases, there will only be one accident data source - the ADOT Traffic Group.

##### Accident Data

An itemized list that shows the types and numbers of accidents within the improvement section during the last five year period shall be included. In addition, the total number of accidents, the number of accidents involving injuries, and the number of accidents involving deaths shall be listed. The accidents shall be itemized according to type - rear end, ran off road, hit fixed object, etc. The beginning and ending dates of the accident sample shall be listed.

##### Review of Accident Data

If the ADOT Traffic Group has reviewed the accidents within the improvement section and prepared a report, the report shall be referenced and any conclusions reached shall be cited. The consultant shall not draw any conclusions from reviewing accident data unless the ADOT Traffic Group has reviewed and approved these conclusions.

#### Location Analysis

**When location is an issue for a project**, a "Location Analysis" Chapter shall be included. The Chapter shall contain the following sections:

##### Introduction

Reasons why location is an issue shall be discussed. The discussion should include background information explaining why particular alternative locations are being evaluated and what the issues

are driving development of the different alternatives. A discussion of field inspections, meetings, and input from others shall be included.

#### Description of Alternative Corridors

This section shall include a complete description and rationale of each alternative corridor proposed, including the existing corridor. The alignments and impacts of each alternative shall be fully described.

#### Evaluation of Alternative Corridors

The pros and cons of each alternative location will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, impact on present and future land uses, preferences of outside agencies and other parties, and design exceptions. A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

#### Conclusions

The recommended location shall be identified, and the reasons and logic used to select it shall be explained. Does cost exceed the programmed amount? Does the recommended alternative have the least amount of negative impacts? Can negative impacts be mitigated? Is the recommended solution interim or within the long-term goals of the overall highway corridor?

### Design Concept Alternatives

This chapter shall contain the following sections:

#### Introduction

This section shall include background information explaining why particular Design Concept Alternatives are being evaluated and what the issues are driving development of the alternatives.

#### Design Concept Alternatives Considered and Discontinued

This section shall include a brief description of each Design Concept Alternative that was considered and discontinued. The alignments and impacts of each alternative shall be briefly described. The reasons for dropping the alternatives shall be explained.

#### Design Concept Alternatives Studied

This section shall include a complete description of each Design Concept Alternative that was considered for further development. The alignments and impacts of each alternative shall be fully described.

#### Evaluation of Alternatives

The pros and cons of each alternative corridor will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, capacity, level of service, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, and design exceptions. A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

#### Conclusions

The recommended alternative shall be identified, and the reasons and logic used to select it shall be explained.

### Major Design Features of the Recommended Alternative

This chapter shall contain the following sections

#### Introduction

This section shall describe the purpose of this chapter

#### Design Controls

This Section shall include a complete list of the Design Controls proposed for the recommended alternative. The following Design Controls shall be listed in the report:

Project Design Year

Design Speed(s)  
 Geometrics  
 Slope Standards  
 Superelevation  
 Maximum Degree of Curve  
 Maximum Grade  
 Typical Section  
 Roadway Width  
 Lane Width  
 Shoulder Width  
 Type of Access Control  
 Right-of-Way Width

#### Horizontal and Vertical Alignments

This section shall include a complete description and discussion of the horizontal and vertical alignments proposed for the recommended alternative. The beginning and ending stations of the alignments shall be listed as well as the number of curves, spirals, and tangents.

#### Access

Based on the Consultant's review of property ownership abutting the proposed right-of-way, existing and proposed land use, ADOT policy, etc., the Consultant shall recommend the access control concept for the corridor. The location of known or currently proposed intersections, median breaks and turnouts will be shown on the conceptual plans. Access requirements for recreation, property and businesses abutting both existing and new right-of-way shall be considered. Local jurisdictions and County Planning & Zoning shall be consulted during this process. The type of access control shall be described. Any special features that are needed to provide access control (such as fencing, gates, and curbs) shall be identified and discussed. Any special access roads or entrances (such as substation entrances) shall be identified. Any access required for future developments shall be identified and described.

#### Right-of-Way

This section shall include a complete discussion of the right-of-way requirements for the recommended alternative. The Consultant shall identify the requirements for new right-of-way and easements, including, but not limited to: new roadway right-of-way, slope easements, drainage easements, and temporary construction easements. An estimated cost of the proposed right-of-way shall be included. The accuracy of the R/W requirements shall be commensurate with the design effort. Existing and future land uses, zoning and special uses and their possible effect on the corridor will be summarized and discussed. Include the quantity (in acres), width, and station limits of any new right-of-way required. Identify any private or public groups who control the needed right-of-way, such as the Forest Service, Bureau of Land Management, Arizona State Land Department, Railroads, or Indian Tribes. If special right-of-way impacts are involved, they shall be described. For example, if only a partial take of a parcel is needed, the associated impacts on the landowner should be discussed. If operations of a business located on the property will be affected, this should be noted.

#### Drainage

This section shall reference and summarize the information presented in the Preliminary Drainage Report and shall include a description of the drainage impacts associated with the recommended alternative, and a description of the proposed improvements. It shall document existing drainage conditions on parcels upstream and downstream of the proposed roadway improvements. Upstream and downstream impacts caused by proposed drainage modifications shall be identified and discussed. Drainage solutions, which do not negatively impact existing conditions, shall be provided. This section shall include a summary of hydrologic data and a tentative drainage layout for cross-drainage and tentative structure sizes. Any drainage facility improvements proposed for the project - cut ditches, channels, storm drains, catch basins, culverts, bank protection, scour protection, channel reconstruction, etc. - shall be identified and described. Requirements for special design details shall be identified. If a drainage study is needed for the project, this fact shall be noted and the drainage work to be addressed by the proposed study shall be described.

#### Flood-plain Considerations

This section shall include a description of the flood plain impacts associated with the recommended alternative. A statement shall be included noting whether or not any areas have

been identified by FEMA as 100-year flood plains. If the proposed project encroaches on a flood plain, the impacts associated with the encroachment shall be identified and described.

#### Section 404 of the Clean Water Act

This section shall include a statement concerning whether or not the recommended alternative qualifies for any nationwide or individual permits required under Section 404 of the Clean Water Act. If permits are required, the following standard declaration shall be included: "ADOT Environmental Planning Group will apply for all permits required."

#### AZPDES Permit:

This section shall contain the statement; "Any construction project that will disturb one (1) or more acres of land area will require an Arizona Pollutant Discharge Elimination Systems (AZPDES) general permit as directed by Section 402(p) of the Clean Water Act." The Consultant shall identify the need for any such permits

#### Geotechnical

This section shall reference and summarize the results of the Preliminary Geotechnical Report.

#### Earthwork

This section shall include a description of the earthwork impacts for the recommended alternative. The Consultant shall attempt by adjustment of highway geometrics to balance the earthwork within the limits of the recommended design projects to a level commensurate with the study. The estimated total embankment, borrow, or waste shall be specified. Any special earthwork, such as cut ditches or slope flattening, shall be described. Any nearby borrow pits or waste disposal sites shall be identified. If the right-of-way is controlled by the Forest Service, Indian Tribes, or other involved party, the preferences of the party concerning the earthwork shall be noted. The Forest Service often has specific requirements concerning the location of pits, interim stockpiling of materials, treatment of side slopes, and the disposal of waste. A statement shall be included concerning whether or not the earthwork will be balanced. If the earthwork will not be balanced, the quantities of borrow or waste shall be specified.

#### Constructability and Traffic Control

This section shall include discussion of the constructability and traffic control issues of the recommended alternative. Any special features of the project that will make the improvements difficult to construct will be identified and discussed. For example, when a bridge will be constructed in stages on the existing alignment and the existing bridge is to remain as a detour, constructability will be an issue. A detailed description of proposed detours, tie-ins to adjacent projects, construction phasing, and other traffic control measures shall be presented. Recommendations for signing marking and signals shall be included. The following sentence shall be included: "Traffic control shall be specified by a traffic control plan or procedures and guidelines in the ADOT Traffic Control Manual for Highway Construction and Maintenance." The following sentence shall be included: "Access to adjacent properties shall be maintained during construction." If special measures are to be taken to provide access, a description of the measures shall be included.

#### Intersections

This section shall include discussion of any intersections that will be constructed or upgraded as part of the recommended alternative. Traffic interchange and intersection geometrics shall be addressed. Pull-out and turn-out treatments shall be addressed. All intersection improvements including signals, signing, and marking shall be identified and discussed.

#### Utilities

Based on existing records along with prior rights information, the Consultant shall identify all utilities within the general project limits to determine potential conflicts and relocations. The Consultant shall indicate the horizontal and vertical location for all known existing utilities from utilities' records on the alternative drawings. The Consultant shall identify any alternatives possible to minimize or eliminate utility line conflicts. The Consultant may be required to prepare a relocation concept and cost estimate for utilities that are being impacted by the project.

#### Structures

The Consultant will determine the need for new and/or reconstructed structures on the project. The consultant shall be fully knowledgeable of bridge types and structural requirements for railroads, traffic interchanges, water crossings, and walls. The Consultant shall recommend alternative structures and structure depths to the extent necessary for development of roadway

concepts. A Bridge Concept Report to identify Type, size, and location (T.S. & L.'s) is required for preliminary cost comparisons and as a part of the study.

#### Pavement Design

This section shall include a description of the pavement design proposed for the recommended alternative.

#### Construction Water Sources

The consultant shall identify potential construction water sources, assess their availability and assess the potential for the water sources to meet the requirements of the project.

#### Social, Economic and Environmental Considerations

The report shall include an overview of impacts, displacements, and potential hazardous waste sites, Section 4(f) lands, Section 404 & 401 Clean Water Act, flood-plains, wetlands, historic and archaeological preservation, and shall identify the extent of NEPA documentation required and identify cooperating agencies.

#### Environmental Mitigation Requirements

Environmental Mitigation Requirements will be outlined in the Location/Design Concept Report exactly as presented in the Environmental Document.

### AASHTO Controlling Design Criteria

Data described in this chapter of the report will be taken from the AASHTO Controlling Design Criteria Report (which is a supplement report to the Location/Design Concept Report). The following sections will be included in this chapter:

#### Introduction

Describe the non-conforming AASHTO design elements of the existing highway which will be upgraded as part of the project, and those elements for which design exceptions will be requested. The recommended alternative will be used to make this determination.

#### Lane and Shoulder Widths

Compare the existing lane and shoulder widths to the minimums recommended by AASHTO. The proposed lane and shoulder widths for the recommended alternative will be noted, and if the proposed widths do not conform to AASHTO, the reasons shall be discussed.

#### Vertical Alignment and Stopping Sight Distance

Compare the existing vertical curve stopping sight distances with the minimums recommended by AASHTO.

#### Horizontal Alignment and Stopping Sight Distance

Compare the existing horizontal curve stopping sight distances, superelevations, and degree of curvature with the AASHTO recommended guidelines.

#### Design Speed

The minimum design speed(s) recommended by AASHTO shall be noted and discussed. If different design speeds are to be used for different segments of the improvement section, the speeds and their associated milepost limits will be noted. The reasoning used to select the design speed(s) shall be discussed. Factors such as type of terrain and functional classification of the highway will be cited as reasons used to select a particular design speed.

#### Grades

Compare the existing maximum grade with the maximum grade recommended by AASHTO. Note the length of the grade, and discuss the operational impact on truck traffic.

#### Cross Slopes

Compare the existing cross slope to the range of cross slopes recommended by AASHTO.

#### Vertical Clearance

Compare the vertical clearances of all underpasses with the minimums recommended by AASHTO.

#### Bridge Structures

Compare the clear width (curb to curb), rail type and strength, and the structural capacity of the bridge with the AASHTO recommended guidelines.

#### Other Considerations

Evaluate and discuss other elements of the highway (those that are not any of the "thirteen criteria" ADOT has agreed to evaluate). These other elements may include intersection sight distance, recovery areas, lateral clearance, etc.

All features (limited to the "13 Criteria") of the existing highway that do not conform to current AASHTO recommended design guidelines shall be identified. A statement shall be included concerning whether or not design exceptions will be requested for the recommended alternative. If all or some of the non-conforming features are to be upgraded as part of the project, this fact shall be noted and the features identified. If the project is State funded (or project is to be administered under Certification Acceptance Procedures) and design exceptions are required, the Assistant State Engineer (Roadway Group) will be petitioned for approval of the exceptions and this will be so noted in the Location/Design Concept Report. If the project is Federally funded and will not be administered under certification acceptance procedures, the FHWA will be petitioned, for approval of the non-conforming features and this will be so noted in the Location/Design Concept Report. The supporting reasons for the request shall be fully explained. The petition will be made by a separate letter separate; however, the fact that that approval has been requested will be noted in the DCR.

#### Itemized Cost Estimate

This chapter shall contain an itemized cost estimate for the recommended alternative. Itemized cost estimates for other alternatives shall be placed in the Appendix. Estimated costs for right-of-way and utility relocation's shall be addressed separately for each alternative. The cost estimate accuracy shall be commensurate with the design effort and shall include appropriate contingency factors. The basis of the estimate shall be the most current version of ADOT's "Construction Costs". Right-of-way estimates shall be "order of magnitude" estimates based on the best available information.

#### Appendices

All DCR's shall have the appendices listed below. The appendices will be tabbed for quick reference.

##### Analysis of Existing Roadway Alignment (AASHTO Controlling Design Criteria Report)

This appendix will contain the review (inventory) of the thirteen AASHTO Controlling Design Criteria. This same report will be submitted with a cover letter to either the ADOT Assistant State Engineer (Roadway Group) or the FHWA when requesting design exceptions for the project (if required).

##### Detailed Cost Estimates for Other Alternatives

This appendix will contain the detailed cost estimates for alternatives other than the recommended alternative. Each estimate will be properly identified and separated from the others.

##### Typical Sections

This appendix will contain the typical cross sections proposed for the project. The effective milepost limits for each typical section will be noted at the top of the sheet. If alternative sections were evaluated and dropped, these sections will also be shown and clearly identified. The recommended sections will be clearly identified as the recommended ones and separated from the others.

##### Plan and Profile Sheets

Drawings for all horizontal and vertical Alignments proposed and evaluated shall be placed in this appendix. The alignments for the recommended alternative shall be placed before the others and noted as the recommended alternative. Each alternative will be clearly identified and separated from the others. Plan and profile shall be developed to such refinement that grades can be reasonable determined and earthwork, drainage, right-of-way, environmental impacts and utility conflicts can be identified.

## **DRAFT ENVIRONMENTAL DOCUMENT (Concurrent with Initial Location/Design Concept Report)**

### **General**

All activities required to reach submittal of the Initial Location/Design Concept Report may proceed concurrently with the environmental studies to be performed. If any ground-disturbing activities are deemed necessary prior to final environmental clearance, coordination and approval by ADOT and/or affected federal, state, and local agencies will be required.

The Consultant shall provide technical information on the project to ADOT and shall prepare environmental documentation for the project. The Consultant shall be responsible for coordinating with the Environmental



Planning Group and Predesign Section during the development of, and changes to, the project design concepts. The Consultant shall be responsible for the technical studies and analyses, agency coordination (when approved by EPG), public involvement and report preparation necessary to produce draft and final environmental documents for the project. The work shall be in accordance with applicable federal and state environmental regulations and as outlined herein.

Upon initiation of the environmental evaluation portion of the work, the Consultant's representative, responsible for the environmental portion of the work, shall meet with ADOT Predesign Section, and Environmental Planning Group, FHWA, BLM, Forest Service, State Land Department, Indian Reservation, and other participating agencies to discuss the project description, purpose and need, proposed methods of environmental evaluation, anticipated involvement with other agencies, report formats, etc. The consultant needs to meet with ADOT first, then set up a meeting with outside entities to discuss the project, with ADOT present as well. If directed to and/or coordinated with ADOT EPG, the Consultant, after this consultation, could directly coordinate with affected federal, state, and local agencies and identified special interest groups to discuss the proposed project and its anticipated effects; otherwise, ADOT EPG shall do this. This coordination may be in the form of letters and/or meetings as determined by the consultant in consultation with ADOT and other participating agencies. This coordination shall be held early in the development stages of the alternative selection process.

During the course of the environmental evaluation, the Consultant shall maintain regular contact with ADOT, advising ADOT of the progress of the work, the problems encountered and the resolutions thereof.

The Environmental Document (NEPA) will generally describe the impacts of the recommended action and the necessary Mitigation Measures in a format agreed to by ADOT and other participating agencies. Complete Technical Reports with all sensitive information relative to the project will remain on file in Environmental Planning Group.

The following categories of impact shall be addressed by the Consultant for the project as applicable:

1. Land Use (existing and proposed)
2. Land Ownership
3. Social (includes school, churches, medical facilities, police, fire- houses, residences, relocation's, etc.)
4. Economics (includes commercial and industrial enterprises, employment, local tax base, etc.)
5. Minority (neighborhoods, businesses, residences, etc.)
6. Natural Resources (water, lands, air, etc.)
7. Section 4(f) (parks, recreation, wildlife refuges, lakes, streams, school playgrounds, etc.)
8. Cultural Resources (includes historical and archaeological)
9. Farmlands (prime, unique, statewide importance)
10. Water Quality
11. Section 404 (dredged and fill materials)
12. Endangered Species (plant and wildlife)
13. Native Plants (State Native Plant Law)
14. Flood-plains
15. Wetlands
16. Air Quality Report
17. Noise Study Report
18. Wild and Scenic Rivers
19. Natural Areas and Trails
20. Scenic Roads and Parkways
21. Local Traffic Patterns
22. Existing and any additional right-of-way
23. Energy Usage
24. Construction Impacts (of temporary nature)
25. Pedestrian/Bicycle/Equestrian Facilities
26. Visual Qualities
27. Material Pits and Haul Roads

- 28. Utilities
- 29. Erosion Control
- 30. Other Modes of Transportation
- 31. Sole Source Aquifer
- 32. Hazardous Materials
- 33. Potential Construction Water Sources
- 34. Section 402(p) of the Clean Water Act

A Draft Environmental Document shall be prepared for review. FHWA will be the lead Agency for the NEPA Document. Determination of the Draft Environmental Document format will be discussed with and agreed upon by ADOT, FHWA, and other participating agencies, prior to data gathering for the Technical Reports. Pre-review of the Draft Environmental Document by Environmental Planning Group and Predesign Section will be required prior to submittal to FHWA and other participating agencies. Signatures by ADOT and FHWA are required prior to publishing and distributing to other agencies for review and comment.

## **REVIEWS AND APPROVALS**

### **Project Team Meeting (Location/Design Concept Report and Environmental Document)**

After ADOT approval of the Initial Location/Design Concept and Draft Environmental Document, a Project Team Meeting will be held to solicit comments and obtain consensus from the Project Team and ADOT disciplines, and to prepare for the Agency and Public Information Meetings. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information Meetings.

### **Agency Meeting (Location/Design Concept Report and Environmental Document)**

After distribution of the Initial Location/Design Concept and Draft Environmental Document, an Agency Meeting will be held to solicit comments and obtain consensus.

### **Public Hearing (Location/Design Concept Report and Environmental Document)**

After distribution of the Initial Location/Design Concept and Draft Environmental Document, a formal Public Hearing will be held in the project vicinity to present the recommended alternative and solicit comments from the public and interested organizations. The Public Hearing will be coordinated through ADOT Communications and Community Partnerships and the ADOT Environmental & Enhancement Group.

### **Comment Resolution and Consensus**

Depending on the nature of the comments received during the Project Team Meeting, the Agency Meeting, and the Public Hearing, it may be necessary to conduct additional comment resolution and consensus meetings and to prepare additional project documentation. The nature and scope of this work will be established based on consultations with the Predesign Project Manager.

## **REPORTS**

### **Implementation Plan**

The Implementation Plan shall define the individual sequential steps necessary to develop the ultimate corridor goals and design concept developed in the Location/Design Concept Report.

The Implementation Plan shall identify logical construction segments, logical sequence, and probable timetable when such upgrades may be needed based on traffic projections, maintenance problems, life and reuse of existing facility, traffic control, constructability and other factors.

The Implementation Plan shall include cost estimates for construction segments proposed. As a general guideline, projects in the \$20-30 million range are more likely to be programmed than those in excess of that amount. Logical sections based on constructability should be used.

The Implementation Plan shall include:

Interim construction and timing that will

Address specific problem areas discovered during the Design Concept Study.

Extend the useful life of the existing facility before major reconstruction would be needed.

Result in a phased implementation of the ultimate design concept with a minimum amount of "throw-away".

Cost-effective implementation.

Issues that must be resolved or revisited prior to construction, such as environmental clearance, utility relocation's, intergovernmental agreements and right-of-way acquisition, which will be identified and discussed.

A discussion of proposed adjacent development project which may affect the highway.

Construction cost estimates for each proposed project which will be included for programming purposes. The Consultant will document the proposed order of construction along with any information, such as forecast traffic volumes, developed to provide guidance as to when certain phases may be needed.

The Implementation Plan will be prepared for the preferred design concept alternative only.

The Implementation Plan format shall be as follows:

#### Executive Summary

Brief description of the location and design concept developed; long-range goals; program year, budget and estimated costs of any programmed projects; summary of interim projects in support of the long-range goals; projected implementation time; and total corridor cost.

#### Implementation

##### Remedial Projects

Projects identified during the corridor study to address acute capacity and operational problems which would be addressed as soon as funding becomes available.

##### Interim Projects

Projects that will extend the useful life of the existing facility or delay the need to reconstruct to the ultimate design concept.

##### Reconstruction Projects

Phased implementation to address ultimate corridor needs, balance earthwork and provide usable segments prior to full construction of the concept.

#### Project Timing

Description of logic leading to classification of projects as Remedial, Interim or Ultimate.

Trigger events such as projected traffic volumes, LOS, development of major traffic generators, etc., that will warrant the initiation of the projects described above.

Phasing considerations such as earthwork, traffic control, local government agreements, environmental considerations, utilities, etc., that would require one project to precede another.

#### Individual Project Cost Estimates

## Agency Coordination

Local government agreements, both existing and needed prior to construction.

Discussion of public lands involvement such as Arizona State Land Department, Bureau of Land Management, Indian Tribes, etc.

Environmental clearance items, those items identified during the Corridor Study that must be resolved or revisited prior to construction.

ADOT Predesign Section will review a preliminary copy of the Initial Implementation Report after completion of the Public Hearing. The Plan will then be distributed for review.

The preferred implementation strategy will be selected by ADOT. The Final Implementation Plan will be used as a guide for programming all projects within the study limits and will be included as a part of the Final Location/Design Concept Report.

## Change Of Access Report (Interstate Highways)

The purpose of the Change of Access Report is to obtain the approval of the Federal Highway Administration for additional traffic interchange or a modification of an existing interchange that revises the existing access control on the Interstate Highway System.

The basic items of justification FHWA considers in evaluating a request for a new interchange are:

Explanation as to why current access is inadequate.

Identification of the traffic demands that would be served by the new facility.

Indication that adequate freeway operation will not be affected by the addition.

The general criteria set forth by the FHWA in this regard are as follows:

### Spacing:

It is important that interchanges be located so as to properly discharge and receive traffic from other interstate and Federal-aid system routes, or major arterial highways or streets. It is equally important that they not be spaced so closely as either to unnecessarily increase the cost of the system or interfere with the free flow and safety of traffic on the Interstate System.

### Documentation:

A statement of the type and condition of the crossroad including:

The system or regional plan of which it is a part.

ADT current and design year; through and turning

Number of existing traffic lanes and type of highway.

Probable number of traffic lanes for the design year.

Distance to and size of communities directly served.

Distances to the next interchange in each direction.

An analysis of the crossroads, the other roads and streets in the area, and the relation of the interchange to them and to other interchanges to assure the ability of the said streets and roads to effectively collect and distribute interstate highway traffic.

The relationship of the interchange to adjacent interchanges of the interstate highway and the acceptable merge and diverge lengths, and the ability to sign adequately.

The existence of other roads or streets, or the probability of developing them generally to the Interstate System, which could be used by interstate highway traffic by way of interchanges other than the one under consideration in traveling to and from its origin or destination.

A statement of the cost resulting from construction of the interchange, together with the estimated benefit-cost ratio, as part of a cost effectiveness analysis.

A special case where the interchange is clearly necessary to serve a compelling public need.

Where the primary need for the additional service is due to a single new development, information regarding the type, intensity and timing of this development, and its relation to traffic demand is very important.

In addition, any supportive position from other public agencies such as the county or a school district which would reasonably benefit from the proposed interchange would be helpful.

### **AASHTO Controlling Design Criteria Report and Request for Design Exceptions**

The Consultant shall, using as-built plans and a field reconnaissance, perform a complete geometric roadway inventory, and evaluate the existing roadways for compliance with AASHTO Controlling Design Criteria. The report shall be prepared utilizing the *Procedural Guide for Review of the AASHTO Controlling Design Criteria on ADOT Roadways*. The ADOT can provide the Consultant with an example of the current format being used to develop this type of report. The inventory shall be in report form, identifying existing design deficiencies relative to desired AASHTO design criteria including but not limited to: lane and shoulder widths, vertical and horizontal alignment, stopping sight distance, superelevation, design speed, grades, cross slope, vertical clearance, bridge width, structural capacity, bridge rail, and traffic volumes. The report shall describe how the deficiencies are to be resolved; either left as is or corrected as part of the project. Justification for non-corrective action shall be clearly documented. The consultant shall submit a justification letter in accordance with the *Design Exception and Design Variance Process Guide, November 2002* to ADOT for review and approval.

### **FINAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Final Environmental Document)**

The Consultant shall prepare the Final Location/Design Concept Report for signatures and distribution

The report shall document the selection to be programmed for construction and shall include refinements of the information developed since the Initial Location/Design Concept Report and modifications resulting from review comments and public comment.

The Final Location/Design Concept Report shall include the Final Implementation Plan.

The Final Location/Design Concept Report shall reflect the Assistant State Engineer's or FHWA's action (approval or disapproval) regarding AASHTO Design Criteria design exceptions.

The Consultant shall submit the Final Location/Design Concept Report, sealed by an Arizona-registered Professional Engineer.

### **FINAL ENVIRONMENTAL DOCUMENT (Concurrent with the Final Location/Design Concept Report)**

Upon completion of the public hearing process, the Consultant shall prepare the Final Environmental Document, incorporating a description of the public involvement process and responses to all comments received, and submit it for review. If applicable, the final environmental document shall be prepared in an addendum format.

Pre-approval of the Final Environmental Document by Environmental Planning Group and Predesign Section will be required prior to submittal to FHWA, BLM, or other participating agencies.

### **DOCUMENT DISTRIBUTION**

The consultant shall print and distribute reports as follows. Upon completion of any report for distribution, the Consultant shall prepare and submit, to ADOT Predesign Section, two preliminary copies of the complete document, transmittal letter, and distribution list for pre-review. Upon receipt of comments, the Consultant shall prepare and distribute the documents for formal review. Copies of review submittals and finalized documents shall be delivered to ADOT by the Consultant accompanied by a transmittal letter and distribution list with complete mailing addresses. All deliveries shall be by hand or overnight courier. All plans shall be half-size black and white sheets. Reviewers will be asked to submit their comments on separate comment forms. The number of copies to be distributed should be confirmed with the Predesign Project Manager prior to printing.

#### **PUBLIC INVOLVEMENT PLAN**

Communications and Community Partnerships	CCP Project Manager	3
Predesign Section	Predesign Project Manager	2
Environmental Planning Group	Project Environmental Planner	1

#### **INITIAL AASHTO CONTROLLING DESIGN CRITERIA REPORT**

Predesign Section	Predesign Project Manager	2
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Note: Predesign Section will forward the Initial AASHTO Controlling Design Criteria Report to Traffic Group for an Accident Analysis.

#### **PROJECT SCOPING REPORT**

Predesign Section	Predesign Project Manager	2
Environmental Planning Group	Project Environmental Planner	1
Agency Scoping Meeting Attendees	Each	1
Scoping Field Review Attendees	Each	1
Other Project Participants	Each	1

#### **FEASIBILITY REPORT**

Predesign Section	Predesign Project Manager	40
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Note: The Feasibility Report will be distributed by Predesign Section. The Consultant shall furnish a distribution list with complete mailing addresses.

#### **PRELIMINARY GEOTECHNICAL REPORT**

Predesign Section	Predesign Project Manager	1
Materials Section	Geotechnical Engineer	2

## PRELIMINARY DRAINAGE REPORT

Predesign Section	Predesign Project Manager	1
Roadway Drainage Section	Drainage Engineer	2

## PRELIMINARY TRAFFIC REPORT

Predesign Section	Predesign Project Manager	1
Traffic Engineering Section	Project Traffic Engineer	2

## BRIDGE CONCEPT REPORT

Predesign Section	Predesign Project Manager	1
Bridge Group	Bridge Engineer	2

## ORIGIN-DESTINATION STUDY

Predesign Section	Predesign Project Manager	1
Traffic Engineering Section	Project Traffic Engineer	2

## BIOLOGICAL EVALUATION REPORT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## CULTURAL RESOURCES REPORT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## AIR QUALITY REPORT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## NOISE ANALYSIS REPORT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## HAZARDOUS MATERIALS SURVEY REPORT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## VISUAL IMPACT ANALYSIS

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	2

## INITIAL LOCATION/DESIGN CONCEPT REPORT

Predesign Section	Predesign Project Manager	40
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Note: The Initial Location/Design Concept Report will be distributed by Predesign Section. The Consultant shall furnish a distribution list with complete mailing addresses.

## DRAFT ENVIRONMENTAL DOCUMENT

Predesign Section	Predesign Project Manager	1
Environmental Planning Group	Project Environmental Planner	7

Note: The Draft Environmental Document will be distributed to FHWA by Environmental Planning Group.

## INITIAL IMPLEMENTATION PLAN

Predesign Section	Predesign Project Manager	15
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Note: The Initial Implementation Plan will be distributed by Predesign Section. The Consultant shall furnish a distribution list with complete mailing addresses.

## CHANGE OF ACCESS REPORT

Predesign Section	Predesign Project Manager	2
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## FINAL AASHTO CONTROLLING DESIGN CRITERIA REPORT AND REQUEST FOR DESIGN EXCEPTIONS

Predesign Section	Predesign Project Manager	2
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Note: The Final AASHTO Controlling Design Criteria Report and Request for Design Exceptions will be forwarded, by Predesign Section, to the Assistant State Engineer (Roadway Group) or the FHWA for approval of Design Exceptions.

## FINAL LOCATION/DESIGN CONCEPT REPORT

Predesign Section	Predesign Project Manager	40
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Note: The Final Location/Design Concept Report will be distributed by Predesign Section. The Consultant shall furnish a distribution list with complete mailing addresses.

## ENVIRONMENTAL DOCUMENT

Predesign Section	Predesign Project Manager	10
Environmental Planning Group	Manager	20

Note: The Environmental Document will be distributed by Environmental Planning Group and Predesign Section. The Consultant shall furnish a distribution list with complete mailing addresses.



**SECTION IX**  
**ADVANCE AGREEMENT CHECKLIST**

# ARIZONA DEPARTMENT OF TRANSPORTATION

## ENGINEERING CONSULTANTS SECTION

### ADVANCE AGREEMENT CHECK LIST (See FAR 31.109)

#### 1. Direct Labor

Direct labor will be billed at actual costs, as defined in FAR 31.001, unless a specific classification or individual's billing rate is capped. However, for partners, sole proprietors and Limited Liability Companies (LLCs) where owners may not be paid an hourly wage or salary, direct labor will be billed at rates agreed to by ADOT. (Also see **Compensation for Personal Services**.)

Only the pay rates of those employees who will likely be expected to be directly involved on the Project stated in the Contract can be used in developing cost proposal rates.

#### 2. Home Office Allocations or Similar Allocated Costs

FAR 31.109(h)(14) states, "General and administrative costs (e.g., corporate, division, or branch allocations) attributable to the general management, supervision, and conduct of the contractor's business as a whole." These costs may represent a significant portion of indirect (Overhead) costs.

All Cost Principles addressed in the Contract Cost Allowability Guidelines and Policies ("CCAGP") must be followed by a Consultant/Subconsultant's home office, division or other related entity that allocates costs to the Consultant/Subconsultant (see the CCAGP **A.5. Allocability of Costs**). These costs should be identified and agreed to in advance as to the amounts considered reasonable and allocable to ADOT contracts.

#### 3. Overhead Rates by Type of Engineering Discipline or Specialty

Firms qualified to provide more than one engineering discipline or specialty must be able to substantiate separate overhead rates for each of the following disciplines:

- Construction Administration (CEI)
- Design
- Geotech
- Supplemental Services

#### **4. Compensation for Personal Services**

See CCAGP B.31.205-6 Compensation for Personal Services.

Compensation for personal services is normally the most significant element of indirect cost. The components of compensation for personal services should be identified and the amounts to be considered reasonable and allocable to ADOT contracts agreed to in advance.

In particular, the following elements of Compensation for Personal Services, if applicable, should be agreed to in advance:

- Both the reasonableness and allocability of compensation paid to partners, sole proprietors, or owners and family members of same, along with highly compensated employees.
- Allowability of bonuses. Under above reference, see 2. *Bonuses and incentive compensation.*

#### **5. Cost of Money**

If this item is requested, it must be properly proposed as a separate line item in the Derivation of Costs Proposal, and documented in accordance with 31.205-10. Also see FAR 31.201-1.

#### **6. Bid and Proposal Costs (see FAR 31.205-18) and Selling/Marketing Costs (see FAR 31.205-38)**

Bid and proposal costs and selling/marketing costs will be looked at carefully in the preaward review. Any unreasonable and/or unallocable costs being claimed will be disallowed. Adequate documentation will be expected for such claimed costs. Unallowable portions will be expected to be properly identified.

#### **7. Other Direct Costs**

It will be expected that Other Direct Costs (any expense/cost other than Direct Labor and Subconsultants) be included in the Overhead cost pool. If a Consultant/Subconsultant proposes Other Direct Costs, it will need to obtain prior approval of its accounting methods by ADOT's Office of Audit & Analysis—External Audit Team before it can include such costs in its Derivation of Costs Proposal submitted to ADOT's Engineering Consultants Section.

## **7. Other Direct Costs, continued**

The list of incidental costs that follow should not be considered to be "all-inclusive". However, the items noted below are specific costs ADOT has identified as being onerous to deal with as Other Direct Costs. Most Consultants/Subconsultants already include such costs in Overhead cost pools.

- Audio/Video equipment and supplies, including VCRs and video cameras
- Cell phones
- Copy machines
- Densometer
- FAX
- Internet/electronic mail
- Mileage for company vehicles
- Office space considered to be "extra". (Exception is for Construction Administration field office.)
- Postage and/or Courier
- Survey supplies
- Telephone calls--both local and long distant

Additional points to consider:

- If a Consultant/Subconsultant does not have separate cost pools (for example CADD and Reproduction Costs), ADOT believes it will be very difficult to adequately substantiate such costs.
- Be aware that if the costs of specific services normally provided by a Consultant/Subconsultant are included in its Overhead Cost Pool, then any unexpected costs that may be incurred to provide those same services must be charged to an Overhead cost account. Any questions regarding this matter should be directed by ADOT's Office of Audit & Analysis—External Audit Team.

## **8. Incidental Costs Which Should Normally Be Charged Directly to the Contract**

- Lease/rental of vehicles or other specialty equipment. (This cost should be substantiated by evidence of appropriate bidding including support for the bid accepted.)
- Mobilization of equipment.
- Travel and Lodging, including per diem, following ADOT's Travel Authorization Policy.
- Special reproduction costs provided by outside vendors

**SECTION X**  
**BOILER PLATE CONTRACT**

Contract No.: 08-01  
TRACS No.: H7142 01L

A.G. Contract No: KR94-1408ALS

**CONSULTANT CONTRACT**

This CONTRACT is made and entered into on \_\_\_\_\_, 20\_\_\_\_ by and between the State of Arizona, Arizona Department of Transportation, Intermodal Transportation Division, acting by and through the Director, hereinafter called STATE, and

(Consultants Name and Address Inserted Here)

hereinafter called the CONSULTANT.

The Description and Location of the CONTRACT and related project(s) are as follows:

**Description:**

Design Concept Report  
And Environmental Studies

**Location:**

SR 64, I-40 To Tusayan

**RECITALS**

1. The STATE desires that \_\_\_\_\_ be prepared for the above location. The trained personnel needed for the CONTRACT and related project(s) are not currently available within its own organization.
2. The CONSULTANT firm with its principals and employees is considered to be qualified and otherwise capable of performing the work required by this contract in the time allotted.
3. Therefore, pursuant to Arizona Revised Statutes, Section 28-1803(5) it is deemed to be in the public interest to enter into this contract.

AGREEMENT

Therefore, in consideration of these premises and of the mutual clauses and agreements herein contained, and the faithful performance thereof, the CONSULTANT and the STATE contract and agree:

2.01 SCOPE OF WORK

The CONSULTANT shall perform engineering services for the satisfactory completion of the CONTRACT and related project(s) as detailed and described in the following Scope of Work dated \_\_\_\_\_ 20\_\_\_\_ which is considered to be a part of this CONTRACT.

3.01 CONTRACT SCHEDULE AND COMPLETION DATE

Work on the CONTRACT and related project(s) is scheduled to commence on \_\_\_\_\_. Work is to be completed within 540 calendar days from notice to proceed for an estimated completion date of \_\_\_\_\_, 20\_\_\_\_. The STATE assumes no liability for work performed or costs incurred prior to the beginning date or subsequent to the CONTRACT completion date. Extensions of time allowed for completing the CONTRACT may be granted under appropriate circumstances.

3.02 CONSULTANTS COMPENSATION - COST PLUS FIXED FEE - SINGLE PHASE

1. The Cost Plus Fixed fee method of compensation for CONSULTANT'S services shall be used.
  - a. CONSULTANT'S total compensation for work on the CONTRACT and related project(s) shall not exceed the sum of \$\_\_\_\_\_ plus approved adjustments, and shall consist of two parts:
    - (1) All the allowable costs incurred as hereinbelow defined.
    - (2) A fixed fee for rendering of the professional services herein contemplated.
  - b. The total allowable costs of the CONSULTANT are estimated to be \$\_\_\_\_\_ which shall not be exceeded by the CONSULTANT without prior written approval of the STATE.
  - c. The fixed fee portion of CONSULTANT'S compensation for satisfactory completion of the CONTRACT and related project(s) shall be \$\_\_\_\_\_.
2. "Costs" as used in this context shall be construed to mean the CONSULTANT'S actual, reasonable costs, subject to any limitation set forth in this CONTRACT, attributable and properly applicable to the conduct of the CONSULTANT'S business in the performance of this CONTRACT in accordance with procedures as set forth in Chapter 1 of the Federal Acquisitions Regulations System, 48 CFR 31.2, and any other mutually agreed upon policies or regulations, as appropriate. Costs for each subcategory (line item) shall not exceed the allowable rates as set forth on the DERIVATION OF COST PROPOSAL located in the SCOPE OF WORK section, Appendix VII of the CONTRACT, or are approved by contract modification, or by Administrative Determination Letter, as applicable. Such costs shall be allocated to the following categories and respective subcategories and may include, but are not necessarily limited to:
  - a. Direct Labor

Gross Salaries and/or wages paid to employees for work on the CONTRACT and related project(s), for time actually spent by CONSULTANT'S employees in direct productive efforts. Regarding CONSULTANT'S employees who charge their time to projects, their non-project pay, such as holiday pay, vacation pay, or any other



form of indirect pay which is included in the employees' gross wages, will not be charged as direct labor to the CONTRACT or to related project(s). Non-project pay is to be included in 3.02 2.b.(2). Also payments to individuals other than the CONSULTANT'S employees are specifically excluded as direct labor costs. Payment of premium overtime (i.e., time and a-half or double time, over and above the normal 40 hour work week) must have the prior written approval of the STATE. If payment of premium overtime is approved, it will be treated as Other Direct Costs.

b. Indirect Costs (Overhead)

- (1) Applicable to straight time portion of Direct Labor only, as defined in 3.02 2. a..
- (2) Indirect labor which includes non-project pay to CONSULTANT'S employees who normally charge their time to projects, salaries and wages paid to support staff such as secretarial, clerical and custodial, plus managerial employees whose time is not considered chargeable project time to this CONTRACT and related project(s) or any other specific project of the CONSULTANT.
- (3) Payroll costs-taxes and fringe benefits such as matching funds or employer's contributions paid for employee's social security, unemployment compensation, worker's compensation insurance, medical/dental life or disability insurance, pension plans, dependent care or medical expense reimbursement accounts, or similar employee benefits.
- (4) Normal operating costs, including but not limited to, reasonable office rental or depreciation expense, repairs, maintenance, parking, janitorial, supplies, telephone and utilities for CONSULTANT'S facilities unless specifically waived by the STATE.
- (5) Payment to the CONSULTANT for Indirect Costs shall be made pursuant to Federal Acquisition Regulation, 48 CFR Chapter 1 Part 31.2, and ADOT Contract Cost Allowability Guidelines and Policies as of August 28, 1998. During the period of the CONTRACT, partial payments will include payments for indirect costs at a provisional rate established by the pre-negotiation review by the audit and analysis office of the department. The Negotiated Provisional overhead rate of \_\_\_\_\_% will be set until receipt of the Pre-Negotiation Audit Review. A contract modification will be executed to establish the Provisional overhead rate. The Overhead rate, Direct Expenses and Fee are subject to change pending Pre-Negotiation Audit Review. A one time redetermination adjustment in the total amount paid or to be paid on all payment reports shall be made to reflect the established overhead rate and any resulting additional payments, refunds, or credits shall be made promptly. The contract Notice to Proceed date will be the effective date for all redetermination of costs.

- (6) The CONSULTANT is responsible for identifying its costs as allowable and unallowable pursuant to FARS 48 CFR Chapter 1 Part 31.2 and any other mutually agreed upon policies or regulations. Within five months after the CONSULTANT'S fiscal year-end, the CONSULTANT will have properly accounted for its allowable Indirect Costs (Overhead) as set forth herein.
- (a) If the actual Overhead rate is lower than the provisional rate used, the CONSULTANT must determine the difference on the progress billings previously paid by the STATE, and remit to the STATE the amount overpaid by the STATE no later than the end of the sixth month following its fiscal year-end. If the CONSULTANT fails to comply with this condition, a penalty of 20% of the over-paid amount will be assessed. If by the end of the sixth month the CONSULTANT has not remitted either the over-paid amount or the penalty thereon, interest of 1% per month will be charged on the unpaid amount until all amounts owing have been paid. Interest will cease to accrue should the combined amount of penalties and interest accumulate to a maximum of 33% of the amount over-paid by the STATE.
  - (b) If the actual Overhead rate is higher than the provisional rate used, the CONSULTANT may determine the amount of additional Overhead due and request payment of same. The payment request must be properly documented and certified by the Chief Financial Officer of the CONSULTANT. The maximum Overhead allowed, will be the CONSULTANT'S actual percentage for the fiscal year as determined by 3.02 2.b.(6) or (B).
  - (c) If the CONTRACT period exceeds one fiscal year of the CONSULTANT, the provisional rate should be modified to more correctly reflect the actual experience or anticipated experience of the CONSULTANT or any of its Subconsultants, if applicable. Either the STATE or the CONSULTANT may initiate the request to modify the provisional rate to prevent substantial overpayment or underpayment.
- (7) Upon completion of the CONTRACT, a final determination of Indirect Costs (Overhead) may be made based on an audit of financial records pursuant to 3.02 2.e.

c. Other Direct Costs

Direct expenses for travel, subsistence, per diem, or other mutually agreed upon expenses of a non routine nature which can be identified directly to the CONTRACT and related project(s). Out of State travel must have prior approval of the STATE.

Facilities Capital Cost of Money will be allowed when properly supported. The provisional rate for this contract is \_\_\_\_%.

d. Outside Services

Salaries and wages paid to individuals, other than the CONSULTANT'S regular employees, such as payments to other consultants, subconsultants, sub-contractors or vendors for engineering and professional services directly attributable to the CONTRACT.

e. Audit of CONSULTANT'S Business Operations and Financial Records

(1) All costs billed to the STATE are subject to audit. The CONSULTANT, and by way of subcontract, all subcontractors or Subconsultants, shall allow the designated STATE auditors to perform an audit as deemed appropriate. Such an audit will take into consideration consistent application of Generally Accepted Accounting Principles and Contract Cost Principles and Procedures as set forth in Chapter 1 of the Federal Acquisition Regulations System, 48 CFR Part 31.2 and any other mutually agreed upon policies or regulations.

(2) The CONSULTANT shall insert in each of its subcontracts the above requirement and also a clause requiring its Subconsultants to include the above requirement in any lower-tier subcontracts.

3. The STATE shall pay the CONSULTANT in installments based upon Progress and Final Payment Reports and Work Hour Reports submitted by the Consultant. A summary of costs billed by category or subcategory, as required by ADOT, is to be included with the invoice. The Payment Reports shall show allowable costs incurred to date under the CONTRACT and the pro-rata portion of the fixed fee earned, with the CONTRACT billed amount subject to the following limitations:
- a. Prior to approval of the Stage II Design Submittal, the billed amount shall not exceed 30 % of the total contract amount.
  - b. Prior to approval of the Stage III Design Submittal, the billed amount shall not exceed 60 % of the total contract amount.
  - c. Prior to the approval of Final Design Submittal, the billed amount shall not exceed 95 % of the total contract amount.
  - d. The STATE, at its discretion and with the recommendation of ADOT's Project Manager, may, by written notification, waive the above limitations. Approval authority shall be the same as for interim payments.
4. Costs are to be identified separately for each project number. Costs for each category must not exceed the amounts budgeted for those specific categories during the contract time frame without prior written approval of the STATE.
5. The CONSULTANT is required to submit a Monthly Progress Report in a format furnished by the STATE showing the status of the work and the degree of completion thereof.

6. The STATE shall not withhold retention on progress payments. However, if satisfactory progress has not been made, the STATE may first retain a maximum of 10% of the current and subsequent billings, or secondly, the STATE may refuse to make full progress payment(s) of such sums which are considered necessary.
7. When all work is delivered, accepted and approved as complete by the STATE, the ADOT Office of Audit and Analysis may prepare a report showing allowable costs incurred. Preparation of this report may require an audit examination of the CONSULTANT'S records. This may also include an examination of subconsultants or subcontractors records.

During performance of progress or final audits, the allowability of direct costs will be contingent upon the CONSULTANT'S ability to demonstrate that these costs were excluded from the overhead cost pool.

8. Final payment shall be made as soon as possible after 60 days from the date of acceptance of the audit findings, if applicable, by the STATE and the CONSULTANT.
9. In the event the STATE requires substantial changes in the scope, character or complexity of the work on the CONTRACT, the total compensation as well the fixed fee portion may be re-evaluated and adjusted to a greater or lesser amount by mutual agreement between the CONSULTANT and the STATE.
10. In the event this CONTRACT is terminated by the STATE as herein provided, the CONSULTANT may be paid all the allowable costs incurred, including mobilization and demobilization expense, plus that portion of the fixed fee earned to date of termination as determined by the STATE. Mobilization and demobilization expenses shall include only reasonable costs of marshalling personnel (and equipment if specifically provided for in the contract) for performing this work and of terminating employment of such personnel. No costs will be allowable in connection with termination of employment if incurred later than fifteen (15) days after the date of termination. Costs will be determined as provided in the Federal Acquisition Regulations and may be verified by an audit.

#### 4.01 CONSULTANT AND SUBCONSULTANT PAYMENT

The CONSULTANT shall submit invoices on a regularly monthly basis in accordance with a timetable agreed to in contract negotiations. Invoices should be sent directly to ADOT Project Manager or Project Monitor.

The CONSULTANT will submit invoices for work performed by their Sub-consultants even though the prime CONSULTANT may not have performed working during the preceding month.

On or before the seventh day after the STATE makes a progress payment to the CONSULTANT, the CONSULTANT shall pay the Sub-consultants for the work performed to the extent of each Sub-consultant's contractual interest in the progress payment.

#### 4.02 CONTRACT MODIFICATIONS

1. Contract modifications, defining and limiting the terms of the contract and compensation, must be approved by the STATE, and shall be submitted in the form and format provided by the STATE. The CONSULTANT will be compensated only with prior written authorization by the STATE. Any administrative/technical costs associated with the preparation of said modifications are solely the responsibility of the CONSULTANT.

- a. Supplemental Agreements

Significant changes in the scope, character, or complexity of the work may be negotiated if it is mutually agreed that such changes are desirable and necessary. Contract changes defining and limiting the work and compensation must be authorized by the STATE. Such supplemental agreement(s) shall be made in writing, and it is expressly understood and agreed that no claim for extra work performed or materials furnished shall be made by the CONSULTANT until authorization to proceed is granted, in writing, by the STATE.

- b. Changes Orders

The STATE may at any time, by written order, and without notice to sureties, if any, make (or direct) changes within the general scope of this CONTRACT in the services to be performed.

#### 4.03 DELAYS AND EXTENSIONS

The CONSULTANT agrees that no charges or claims for damages shall be made against the STATE for any delays or hindrances during the progress of this CONTRACT. Such delays or hindrances, if any, will be covered by an extension of time for such reasonable period as mutually agreed upon between the parties. It is agreed and understood, however, that permission to proceed with the CONTRACT after the established completion date, shall not be construed as a waiver by the STATE of any of its rights herein.

#### 4.04 LATE SUBMITTAL OF INVOICE

Unless waived by the STATE, in writing, all invoices for work performed under this CONTRACT shall be submitted within 60 days from date of acceptance of the completed portion of the work performed.

#### 4.05 PERFORMANCE EVALUATIONS

The CONSULTANT'S performance will be evaluated periodically in accordance with the schedule set forth in Appendix F of this CONTRACT.

**4.06 GENERAL COMPLIANCE WITH LAWS**

The CONSULTANT shall comply with all Federal and State laws, and local ordinances and regulations.

**4.07 LITIGATION**

In the event of litigation between the CONSULTANT and the STATE involving this CONTRACT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction of the Federal or State Court System within the geographical boundaries of the State of Arizona.

**4.08 DISPUTE ESCALATION (Administrative Review)**

A written dispute escalation process will be utilized to resolve questions of fact during the course of this CONTRACT. The final determination will be made by the STATE.

**4.09 ARBITRATION**

The parties agree to use arbitration, after exhausting applicable administrative reviews, to resolve disputes arising out of this agreement where the sole relief sought is monetary damages of \$100,000, or less, exclusive of interest and costs.

**4.10 TERMINATION, POSTPONEMENT OR ABANDONMENT**

1. The right is reserved by the STATE to terminate, indefinitely postpone work, or abandon the CONTRACT. The STATE may terminate this CONTRACT in any one of the following circumstances:
  - a. Failure of the CONSULTANT to perform the services as detailed herein and in any modifications to this CONTRACT.
  - b. Failure of the CONSULTANT to complete this CONTRACT within the time specified herein and in any modifications to this CONTRACT.
  - c. Failure of the CONSULTANT to comply with any of the terms of this CONTRACT.
  - d. When, for any reason, the STATE shall determine that such termination is in its best interest.
2. If the STATE contemplates termination under the provisions of paragraphs 1.a., 1.b., or 1.c. above, the CONSULTANT shall have five (5) days in which to cure such failure. In the event the CONSULTANT does not cure such failure, the STATE may terminate the CONTRACT without further consideration.

3. If, after Notice of Termination of this CONTRACT under the provisions of 1.a., 1.b. or 1.c. of this clause, it is determined that the CONSULTANT was not in violation or default, the Notice of Termination shall be deemed to have been issued under the terms of 1.d. of this clause.
4. Termination shall be effected by delivery to the CONSULTANT of a Notice of Termination specifying whether termination is for default of the CONSULTANT or for the convenience of the STATE, the extent to which performance of the CONTRACT is terminated, and the date upon which such termination becomes effective.
5. In the event of termination, the STATE shall be liable to the CONSULTANT only to the extent and as provided in SECTION 3.02 (CONSULTANTS'S COMPENSATION) of this CONTRACT.
6. In the event this CONTRACT is terminated, the STATE shall have the option of completing the CONTRACT, or entering into an agreement with another party for the completion of this CONTRACT according to the provisions and agreements herein.
7. If the STATE exercises this option, all costs and charges incurred by the STATE, together with the cost of completing the work under CONTRACT, will be deducted from any monies due or which may become due the CONSULTANT.

#### 4.11 CANCELLATION OF STATE CONTRACTS

In accordance with Arizona Revised Statutes 38-511, the STATE may cancel any CONTRACT, without penalty or further obligation, made after the effective date of this section by the STATE or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating the CONTRACT on behalf of the STATE or any of its departments or agencies is, at any time while the CONTRACT or any extension of the CONTRACT is in effect, an employee of any other party to the CONTRACT in any capacity or a CONSULTANT to any other party of the CONTRACT with respect to the subject matter of the CONTRACT. The cancellation shall be effective when written notice from the STATE is received by all other parties to the CONTRACT unless the notice specifies a later time.

#### 4.12 SUCCESSORS AND ASSIGNS

The CONSULTANT and all successors, executors, administrators and assigns of CONSULTANT'S interest in the work or the compensation herein provided shall be bound to the STATE to the full legal extent to which the CONSULTANT is bound with respect to each of the terms and agreements of this CONTRACT.

#### 4.13 CONTINUING OBLIGATION

The CONSULTANT agrees that if because of death or any other occurrence it becomes impossible for any principal or employee of the CONSULTANT to render the services required under this CONTRACT, neither the CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, the

STATE may terminate this CONTRACT if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect the CONSULTANT'S ability to satisfactorily complete the performance of this CONTRACT.

#### 4.14 INSURANCE

1. Without limiting any liabilities or any other obligations of the CONSULTANT, the CONSULTANT shall provide and maintain the minimum insurance coverage listed below. Coverage will be provided with forms and insurers acceptable to ADOT and maintained at a minimum until obligations under this CONTRACT are satisfied.
  - a. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of one hundred thousand dollars (\$100,000). Evidence of qualified self-insured status shall suffice for this section.
  - b. Architects' and Engineer's Professional Liability insurance in the amount of one million dollars (\$1,000,000) each claim, with said coverage to remain in force and effect for a minimum of one year past ADOT's acceptance of the CONTRACT.
  - c. Comprehensive General Liability insurance with a minimum combined single limit of one million dollars (\$1,000,000) each occurrence. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. Said policy shall contain a severability of interest clause.
  - d. Commercial Automobile Liability coverage with a combined single limit for bodily injury and property damage of not less than one million dollars (\$1,000,000) for all owned, leased, hired and non-owned vehicles. The State of Arizona and the Arizona Department of Transportation must be named as Additional Insureds and Certificate Holder on the policy.
  - e. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports, or other similar data relating to the work of the CONSULTANT used in the completion of this CONTRACT.
  - f. The policy required by Sections c. and e. above shall be endorsed to include the STATE and ADOT, its agents and officials and employees as additional insureds and shall stipulate that the insurance afforded CONSULTANT shall be primary insurance and that any insurance carried by ADOT, its agents, officials or employees shall be excess and not contributory insurance to that provided by CONSULTANT.
  - g. A certificate of insurance acceptable to ADOT shall be issued to ADOT prior to commencement of the CONTRACT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to ADOT.



#### **4.15 INDEMNIFICATION - RESPONSIBILITY FOR CLAIMS AND LIABILITIES**

##### **1. For Professional Liability**

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

##### **2. For Other than Professional Liability**

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

#### **4.16 ANTITRUST VIOLATIONS**

The CONSULTANT and the STATE recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact borne by Purchaser or ultimate user: in this case, the STATE. Therefore, CONSULTANT, acting as a Vendor, hereby assigns to the STATE any and all claims for such overcharges.

#### **4.17 LIQUIDATED DAMAGES**

(This is an optional provision applied, on an exception basis, primarily to contracts initiated and administered by the Arizona Transportation Research Center - Not applicable to this contract)

#### **4.18 CONSULTANT'S RESPONSIBILITY**

The CONSULTANT has total responsibility for the accuracy and correctness of plans and related data prepared under the terms of this CONTRACT, and shall check all such material accordingly for completeness, missing items, correct multipliers and consistency. The plans will be reviewed by ADOT for conformity with ADOT procedures and contract terms. Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.

**4.19 ACCURACY OF WORK**

Acceptance of the work by the STATE will not relieve the CONSULTANT of the responsibility for subsequent correction of any such errors and the clarification of any ambiguities. The CONSULTANT shall make all necessary revisions or corrections resulting from errors and omissions on the part of the CONSULTANT without additional compensation.

**4.20 CONSULTANT'S ENDORSEMENT OF PLANS, ETC.**

The CONSULTANT'S seal shall be endorsed and affixed to plans, reports and engineering data furnished under this CONTRACT.

**4.21 PROFESSIONAL CONDUCT**

The CONSULTANT shall comply with the provisions of A.C.R.R.4-30-301 (which is the official compilation of the Administrative Rules and Regulations for the State of Arizona), entitled Rules of Professional Conduct, Rules of the State Board of Technical Registration for Architects, Assayers, Engineers, Geologists, Landscape Architects and Land Surveyors, which are incorporated herein by reference and hereby made a part of the CONTRACT.

**4.22 IMPROPER EXERCISE OF AUTHORITY**

It is further understood and agreed that the CONSULTANT shall not in any way exercise any portion of the authority or powers of the State of Arizona, and shall not make a contract or commitment, or in any way represent itself as an agent of the State of Arizona beyond the scope of this CONTRACT unless expressly authorized, in writing, by the STATE.

**4.23 CONFLICTS OF INTEREST**

1. The CONSULTANT shall not engage the services on this CONTRACT of any present or former STATE employee who was involved as a decision maker in the selection or approval processes or who negotiated and/or approved billings or contract modifications for this CONTRACT.
2. The CONSULTANT agrees that no public or private interest exists and none shall be acquired directly or indirectly which would conflict in any manner with the performance of the CONTRACT.

#### 4.24 ORGANIZATIONAL CONFLICTS OF INTEREST

1. No contract for the construction of a project shall be awarded to the firm that designed the project, or its subsidiaries, affiliates, the parent company or subconsultants, except with the written approval of the STATE.
2. The applicability of the above also applies to a Management and/or General Consultant or any of its subsidiaries, affiliates, the parent company or subconsultants that were involved in any aspect of the design process.

##### 4.24.1 CONSULTANT - CONTRACTOR CONFLICTS OF INTEREST

The CONSULTANT agrees that it shall not perform services on this project for the contractor, sub-contractor or any supplier.

The CONSULTANT shall not negotiate, contract, or make any agreement with the contractor, subcontractor or any supplier with regard to any of the work under this project, or any services, equipment or facilities to be used on this project.

#### 4.25 ORGANIZATION EMPLOYMENT DISCLAIMER

1. The CONTRACT is not intended to constitute, create, give to, or otherwise recognize a joint venture agreement or relationship, partnership, or formal business organization of any kind, and the rights and obligations of the parties shall be only those expressly set forth in the CONTRACT.
2. The parties agree that no persons supplied by the CONSULTANT in the performance of CONSULTANT's obligations under the CONTRACT are considered to be STATE employees, and that no rights of State civil service, retirement or personnel rules accrue to such persons. The CONSULTANT shall have total responsibility for all salaries, wages, bonuses, retirement, withholdings, workmen's compensation, occupational disease compensation, unemployment compensation, other employee benefits and all taxes and premiums appurtenant thereto concerning such persons, and shall save and hold the STATE harmless with respect thereto.

#### 4.26 NONPROCUREMENT DEBARMENT AND SUSPENSION

1. In accordance with 49 CFR 29.505, and by signature on this CONTRACT, the CONSULTANT certifies its' compliance, and the compliance of any subconsultants or subcontractors present or future, by stating that any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position of authority involving Federal Funds:
  - a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal Agency;

- b) does not have a proposed debarment pending;
- c) has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal Agency within the past 3 years; and
- d) has not been indicted, convicted, or had a civil judgment rendered against the firm by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years as specified by 49 CFR paragraph 29.305(a).

Where the CONSULTANT or subconsultant is unable to certify to the statement in 4.26.1(a) above, the CONSULTANT or subconsultant will be declared ineligible to enter into CONTRACT or participate in the project.

Where the CONSULTANT is unable to certify to any of the statements as listed in 4.26.1 (b), (c) or (d), the CONSULTANT shall submit a written explanation to the STATE. The certification or explanation will be considered in connection with the STATE's determination whether to enter into CONTRACT.

2. The CONSULTANT shall provide immediate written notice to the Department if at any time the CONSULTANT or any subconsultants or subcontractors, present or future, learn that its Debarment and Suspension certification has become erroneous by reason of changed circumstances.

#### **4.27 COVENANT AGAINST CONTINGENT FEES**

The CONSULTANT warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this CONTRACT, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this CONTRACT. For breach or violation of this warranty, the STATE shall have the right to annul this CONTRACT without liability, or in its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

#### **4.28 SUBLETTING, ASSIGNMENTS AND TRANSFERS**

The CONSULTANT firm was chosen to perform the work on this CONTRACT based upon training and qualifications of its members. Therefore, subletting, assignment or transfer of any work to subconsultants and lower tier subconsultants, unless approved in writing by the STATE prior to performance of work, is expressly prohibited.

#### **4.29 SUBCONSULTANTS**

1. The CONSULTANT may retain Subconsultants on an "as required" basis, provided that the Subconsultants selected, and the rates to be paid, are identified on each Subconsultant's DERIVATION OF COST PROPOSAL located in the SCOPE OF WORK section, Appendix D of the CONTRACT, or are

approved by contract modification, or by Administrative Determination Letter, as applicable. All Subconsultants shall be required to follow the terms and conditions of this CONTRACT.

a. Subconsultants' Compensation

Each Subconsultant will be expected to follow covenants set forth in 3.02 2. unless the subcontract is considered a Lump Sum by Task (fixed price) subcontract and not a Costs Plus Fixed Fee subcontract. However, with respect to 3.02 2.b.(5), the Indirect Costs (Overhead) rates for each Subconsultant, when applicable, will be the actual allowable overhead rate or the Negotiated Provisional rate stipulated in each Subconsultant's final DERIVATION OF COST PROPOSAL, as concurred with by the STATE. Each Subconsultant's actual allowable overhead rate or the negotiated provisional Overhead rate is separately determined and may not be the same rate as stipulated for the CONSULTANT.

b. CONSULTANT'S Responsibility Regarding Subconsultant's Costs

The Subconsultant's allowable costs shall be governed by 3.02 2. The CONSULTANT shall monitor the billings received from the Subconsultants and ensure that all costs are documented and supported.

Regarding Indirect Costs (Overhead), the CONSULTANT is responsible for determining that the Subconsultants comply with 3.02 2.b.(6) with respect to the actual allowable or negotiated provisional Overhead rates. The Overhead rates for Subconsultants are "actual allowable" or "negotiated provisional", and must be accounted for annually. A Subconsultant may not bill more than its actual allowable Overhead rate or the negotiated provisional Overhead rate. In the event any Subconsultant violates this subsection, the penalties set forth in 3.02 2.b.(6)(a) will be assessed to the CONSULTANT.

All costs of the Subconsultants are subject to audit unless waived by the STATE. The cost to the STATE for Subconsultants shall be in amounts equal to the actual allowable costs paid to the Subconsultants.

2. The volume of work performed by the Subconsultants shall not exceed 49% of the total contract value unless waived by the STATE.

#### 4.30 SUBCONTRACTS

The CONSULTANT agrees to insert in all subcontracts the clauses hereof entitled "Civil Rights," "Affirmative Action," "Ownership of Documents," "Patents and Copyrights", "Anti Lobbying and Disclosure," "Retention of Records" and "Immigration". The CONSULTANT further agrees to insert in any subcontract exceeding \$100,000 the clause hereof entitled "Environmental Protection."

**4.31 KEY PERSONNEL**

Any substitution or transfer of personnel specifically identified in CONSULTANT'S proposal as assigned to the work of this CONTRACT shall be subject to prior written approval by the STATE.

**4.32 EMPLOYMENT OF PERSONNEL OF PUBLIC AGENCIES**

The CONSULTANT shall not engage the service of any person or persons then in the employ of the STATE for work covered by the terms of this CONTRACT without the prior written approval of the STATE.

**4.33 ANTI-LOBBYING**

1. The CONSULTANT agrees to comply with the provisions of Section 1352 of Title 31, U.S.Code (Public Law 101.121) as codified in Title 48, Federal Acquisition Regulations Subpart 3.8 and Subpart 52.203-11. The legislation prohibits federal funds from being expended by a recipient or any lower tier subrecipients of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence a Federal agency or Congress in connection with the award of any Federal contract, cooperative agreement, including the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement. All disclosure statements are to be furnished to the STATE.
2. The CONSULTANT agrees to require all subconsultants and lower tier subconsultants who have agreements exceeding \$100,000 to complete the Certification of Federal Contracts (ECS Form 90-1) and, when appropriate, the Disclosure of Lobbying Activities (ECS Form 90-3) prior to execution of the Prime Consultants Agreement with the STATE. Lower tier certifications are to be maintained by the CONSULTANT.

**4.34 OWNERSHIP OF DATA**

1. The CONSULTANT agrees to maintain (in sufficient detail as will properly reflect all work done and results achieved in the performance of this CONTRACT) tracings, plans, specifications and maps, basic survey notes and sketches, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, computer programs and documentation thereof, and other graphic or written data generated in connection with the work called for in the CONTRACT; all such information and documentation to be termed "Data" under this CONTRACT.
2. All Data procured hereunder for the work funded by ADOT shall become the property of ADOT and delivered to ADOT upon request, and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE; provided however, that CONSULTANT shall not be required to retain any Data not requested by ADOT within five years from the date of final payment to the CONSULTANT hereunder; and provided further that until

such delivery to ADOT the CONSULTANT agrees to permit representatives of ADOT and the Federal Highway Administration to examine and review at reasonable times all Data still in the possession of the CONSULTANT.

3. All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

#### 4.35 ADOT PRODUCTS

ADOT will provide the consultant with the ADOT developed software for the sole purpose of completing this contract, as set forth in the Site License Contract (which includes a detailed list of Software that will be provided to the consultant). The software is provided to the consultant solely for the purpose of completing this contract and for no other purposes. ADOT developed software including: manuals, electronic information, programs, and associated materials, remains the property of ADOT. Any use of this software for purposes other than the fulfillment of this contract is strictly prohibited. The consultant shall not copy the software or provide, distribute or demonstrate the software to other entities. Upon completion of the contract or when otherwise notified by ADOT, the contractor will return all software, backup copies, manuals, electronic information and associated materials to ADOT.

#### 4.36 RETENTION OF RECORDS

1. The CONSULTANT and any subconsultant/subcontractor/vendor shall keep and maintain all books, papers, records, accounting records, files, accounts, reports, costs proposals with backup data and all other material relating to the CONTRACT and related project(s), and shall make all such material available at any reasonable time during the term of work on the CONTRACT and related project(s) and for five (5) years from the date of final payment to the CONSULTANT for auditing, inspection and copying upon the STATE'S request, or at the request of the Federal Highway Administration or any other authorized representative of the Federal Government.
2. The CONSULTANT shall insert in each of its subcontracts the above requirement and also a clause requiring its subconsultants to include the above requirement in any lower-tier subcontracts or purchase orders.

#### 4.37 REVIEW AND INSPECTION

Representatives of the STATE and the Federal Highway Administration are authorized to review and inspect the CONTRACT activities and facilities during normal business hours.

#### 4.38 PROPERTY OR EQUIPMENT

Except as otherwise provided in this CONTRACT, the lease, rental or purchase of property or equipment to perform the work herein described must have the prior written approval of the STATE. The control, utilization and disposition of property or equipment acquired using FEDERAL/STATE funds shall be determined by the STATE in accordance with the property management standards set forth in 49 CFR Part 18 , ADOT Manual - FIN 11.02, and Highways Division Policy and Implementation Memorandum No. 89-04.

#### 4.39 CIVIL RIGHTS

1. The CONSULTANT is required to comply with Executive Order 75-5, "Non-discrimination in Employment by Government Contractors and Subcontractors," which is hereby included in its entirety by reference and considered a part of this CONTRACT.
2. The CONSULTANT is required to comply with Title VI of the Civil Rights Act of 1964, as amended. Accordingly, Title 49, Code of Federal Regulations, Part 21 through Appendix H and Title 23, CFR 710.405 (b) are made applicable by reference and are hereinafter considered a part of this CONTRACT.
3. The CONSULTANT is required to comply with the provisions of Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor Regulations (41-CFR Part 60). Said provisions are made applicable by reference and are hereinafter considered a part of this CONTRACT.
4. The CONSULTANT shall post in conspicuous places available to employees and applicants for employment, the following notice:

It is the policy of this company not to discriminate against any employee, or applicant for employment, because of race, color, religion, creed, national origin, sex, age, handicapped, or disabled veterans and Vietnam era veterans. Such actions shall include, but are not limited to: employment, upgrading, demotion, transfer, recruitment, or recruitment advertising; laying-off or termination; rates of pay or other compensation; and selection for training, and on-the-job training. Also, it is the policy to insure and maintain a working environment free of harassment, intimidation and coercion.

#### 4.40 AFFIRMATIVE ACTION

CONSULTANT shall take the following affirmative action steps with respect to securing supplies, equipment or services under the terms of this CONTRACT:

1. Include qualified firms owned by socially and economically disadvantaged individuals on solicitation lists.



2. Assure that firms owned by socially and economically disadvantaged individuals are solicited whenever they are potential sources.
3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by firms owned by socially and economically disadvantaged individuals.
4. Where the requirement permits, establishing delivery schedules which will encourage participation by firms owned by socially and economically disadvantaged individuals.
5. Use the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.

#### 4.41 PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES

The CONSULTANT is required to adhere to the commitment made to participation by ADOT certified Disadvantaged Business Enterprises (DBE) as indicated in the firms Technical Proposal or subsequently agreed to by the STATE during negotiations. The STATE, at its discretion on a case by case basis, may waive the above limitations.

The CONSULTANT must submit the DBE Compliance Report to the Civil Rights Office by the 3<sup>rd</sup> Friday of each month. The report shall indicate the amount earned by and paid to each DBE working on the project for the preceding month.

#### 4.42 ENVIRONMENTAL PROTECTION

(This clause is applicable if this contract exceeds \$100,000.00. It applies to Federal Aid Contracts Only.)

CONSULTANT is required to comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857 (h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15) which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations shall be reported to the Federal Highway Administration and to the U.S.E.P.A. Assistant Administrator for Enforcement. (EN-329).

#### 4.43 ENERGY CONSERVATION

(This clause is applicable to Federal Aid Contracts Only.)

CONSULTANT is required to comply with mandatory standards and policies, as applicable, relating to energy efficiency which are contained in the State Energy Conservation Plan issued by the State of Arizona in compliance with the Energy Policy Conservation Act (P.L. 94-163).

4.44 PUBLICATION PROVISIONS

The CONSULTANT shall provide annual, quarterly or monthly written progress reports requested by the STATE. Prior to completion of the CONTRACT and related project(s), the CONSULTANT shall prepare a final report summarizing activities, conclusions, and recommendations in a form as prescribed by the STATE, and this report shall be a prerequisite for final payment. Publication rights to all reports are reserved by the STATE. The CONSULTANT shall not release information developed under the CONTRACT prior to publication, except upon written approval of the STATE.

4.45 PUBLICATION PROVISIONS (RESEARCH AND UNIVERSITIES)  
(Not applicable to this contract)

4.46 PATENTS AND COPYRIGHTS

All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

4.47 PATENTS AND COPYRIGHTS (RESEARCH AND UNIVERSITIES)  
(Not applicable to this contract)

4.48 FEDERAL IMMIGRATION AND NATIONALITY ACT:

1. General: The consultant, including all subconsultant, shall comply with all federal, state and local immigration laws and regulations, as set forth in Arizona Executive Order 2005-30, relating to the immigration status of their employees who perform services on the contract during the duration of the contract. The State shall retain the right to perform random audits of consultant and subconsultant records or to inspect papers of any employee thereof to ensure compliance.
2. Compliance Requirements: By submission of a proposal, the consultant warrants that the consultant and all proposed subconsultants are and shall remain in compliance with all federal, state and local immigration laws and regulations relating to the immigration status of their employees who perform services on the contract. The State may, at its sole discretion, require evidence of compliance from the consultant shall have ten working days from the receipt of the request to supply adequate information.

The Department will accept, as evidence of compliance, a showing by the consultant or subconsultant that it has followed the employment verification provisions of the Federal Immigration and Nationality Act as set forth in Sections 274A and 274B of that Act, including implementation of regulations and agreements between the Department of Homeland Security and the Social Security Administration's verification service.

The Consultant shall include the provisions of Subsection 4.30 in all its subcontracts.

3. **Sanctions for Non-Compliance:** Failure to comply with the immigration laws or to submit proof of compliance constitutes a material breach of contract. The Department will reduce the consultant's compensation by \$10,000 for the initial instance of non-compliance by the consultant or subconsultant. Should the same consultant or subconsultant commit subsequent violations within a two-year time period from the initial violation, the consultant's compensation will be reduced by \$50,000 for each violation. The third instance by the same consultant or subconsultant within a two-year period may result, in addition to the \$50,000 reduction in compensation, in removal of the offending consultant or subconsultant, suspension of work in whole or in part or, in the case of a third violation by the consultant, termination of the contract for default. In addition, the Department may debar a consultant or subconsultant who has committed three violations within a two-year period for up to one year. For purposes of this paragraph, a violation by a subconsultant does not count as a violation by the consultant.

Any delay resulting from a sanction under this subsection is a non-excusable delay. The consultant is not entitled to any compensation or extension of time for any delays or additional costs resulting from a sanction under this subsection.

An example of the sanctions under this subsection is presented in the following table:

Consultant	Offense by:		Reduction in Compensation
	Subconsultant A	Subconsultant B	
First			\$10,000
	First		\$10,000
	Second		\$50,000
		First	\$10,000
	Third		\$50,000 *
* May, in addition, result in removal of the subconsultant and/or debarment of the subconsultant.			

In Witness whereof the parties hereto have executed this agreement as of the day and year first herein written.

FOR THE STATE

ARIZONA DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

By: \_\_\_\_\_

\_\_\_\_\_  
Title

FOR THE CONSULTANT

FIRM NAME

\_\_\_\_\_  
Date

By: \_\_\_\_\_

\_\_\_\_\_  
Title